

Kodak

1200i wide-format printing system

Technical Training Guide



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Presite Inspection *(pre-installation)*



Installation Requirements

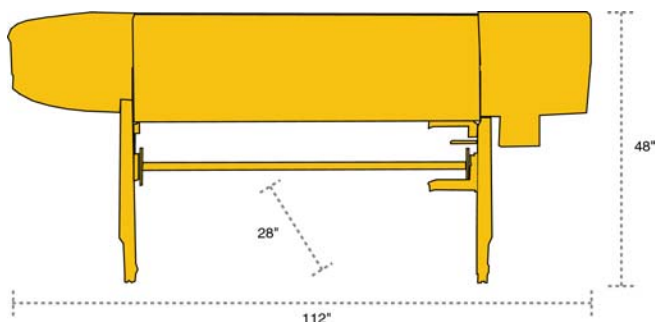
The Kodak 1200i wide-format printing system requires approximately 15' x 20' (4 x 6 meters) square space available for the printer un-boxing and setup. Additionally, vice grips/pliers may be needed to aid in support bracket removal. Four (4) people will need to be available to assist in the setup.



Operational Space Requirements

Ensure printer is placed onto a level floor surface – use a fluid level to verify printer is properly leveled.

Printer footprint dimensions are illustrated below:



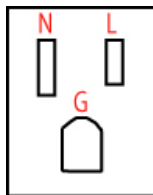
Power Requirements

Either 115 or 230 volt, 50/60Hz source power is required for the printer. All major power cord standards are supplied with each printer. The voltage selector switch is positioned to the 230 volt position during shipping; ensure selector switch is set to either 115 or 230 for the appropriate region. The printer typically uses 1100 watts of power during normal operation (when dryer is engaged) –a dedicated 20 amp circuit is ideal.

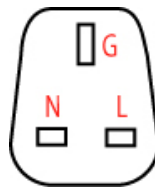


NOTE: The printer must be properly grounded in accordance with regional and general equipment/electrical grounding guidelines or improper print operation may result and personnel hazards may result if inadequate grounding is provided. Verify a ground line (G) is present at power receptacle or power strip prior to installing the printer, refer to receptacle examples below.

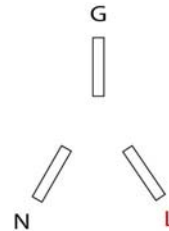
US/Canada



**UK/Singapore/
Hong Kong**



China



Connectivity Requirements

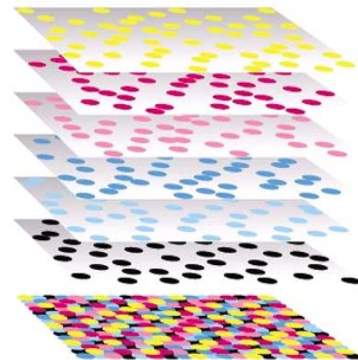
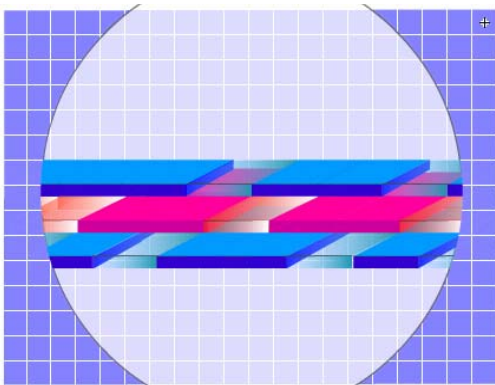
The printer can be connected directly to a computer via an Ethernet crossover cable or via a regular Ethernet cable (RJ-45) connected to a 100BaseT HUB/Switch/Router placed on the network. For DHCP (Dynamic Host Control Protocol) networks a static IP address (dedicated address for printer) must be made available; consult a network administrator to verify system setup.



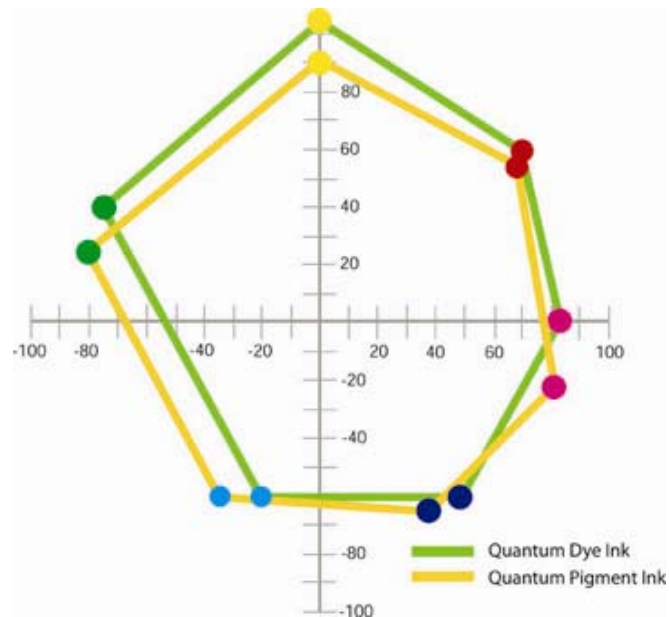
Printer Features

1. Intelligent Mask Technology (IMT)

- A simple screen that is applied to image files by the printer to determine which dots are printed during each swath (or print pass) in a particular print mode selection. A different print mask is applied for each color plane.

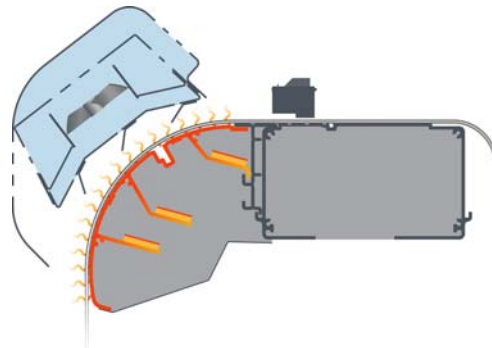


- Two thermal-based ink types are available with the Kodak 1200i Wide-Format Printing system: Quantum-Dye (Qi-Dye) and Qi-Pigment (Qi-Pig). The typical color range of the Qi-Dye ink is approximately 17,500 and offers outstanding color pop and with the majority of inkjet-coated media types in the industry. This ink is particularly strong in the backlit applications market. Qi-Pigment ink color is near the 16,500 range and offers exceptionally brilliant color for a thermal-based ink, particularly on the Rapid Dry and indoor/outdoor media sets.

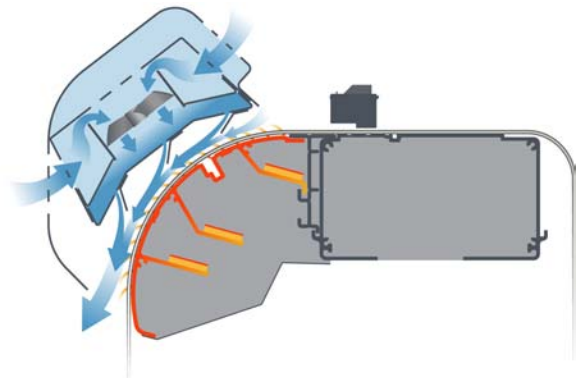


2. Rapid Dryer Technology

The advanced dual-component drying system uses the principle of conducted heat to dry printed images with much greater efficiency than can be achieved with hot air dryers. The media web is fed over a heated aluminum nose that is curved to maintain intimate contact with the back of the web for effective heat transfer. The nose is an isolated extrusion that incorporates three longitudinal fins with an electrical heating strip mounted to each fin inside the curve (each of the three electrical heating strips provide up to 323 watts of power). This design evens out heat flow to minimize cold spots under high density printed areas across the web without the long warm-up time of a much thicker section. Ambient air flow is used to pull away moisture and improve drying efficiency by another 30% over that achieved with the heated nose alone. The application of ambient air flow also allows the system to apply more drying power at a lower peak temperature for reduced risk of media damage. Overall the drying system uses approximately 25% less energy over other drying systems.



An ambient fan driven air plenum is used to distribute air flow evenly across the print width. Air flow is downward, carrying heat away from the print zone to improve nozzle reliability and to reduce the risk of edge curl. An intelligent control system regulates electrical power to achieve and maintain temperature set points between 35 and 55 degrees C.

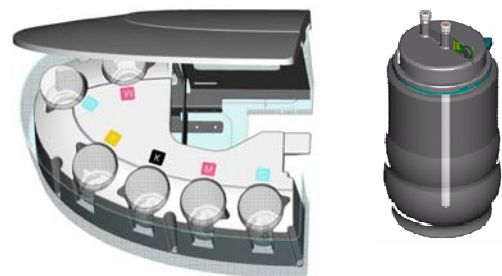


The air plenum may be lowered by removing two locking pins to perform printer maintenance.

3. Ink System

a. Ink Reservoir:

- 6 ink reservoirs (ML, CL, Y, K, M, C)
- Ink bottles are easy to replace
- Encrypted for ink monitoring (700 ml)
- One set of ink lines; switch over capability (Dye or Pigment)
- Plug and Play ink refill bottle (700 ml) with septum/needle interface
- Clean-hands installation
- Mechanical color keying of bottle



c. Intermediate Reservoir:

- Intermediate reservoir located below ink bottle
- Provides consistent ink supply pressure (50 ml capacity)
- Replace ink on-the-fly (30 seconds); prevents job interruptions
- Optical sensor monitors reservoir ink levels [ink level **LOW** warning sensor (<30ml; ~10-30 minutes) and ink level **OUT** stop (<20ml), protects cartridge]



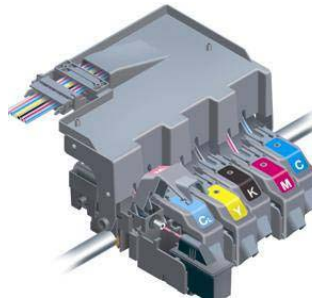
d. Ink Supply Dampers and Septum Valve System:

- Ink flows through damper into a septum assembly (spring actuated ball valve to shutoff ink when cartridges are removed)
- Note: ink is filtered at the cartridge only.



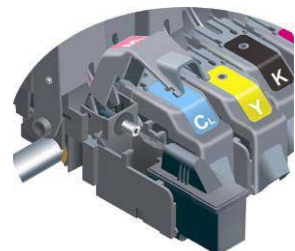
e. Carriage Assembly:

- Robust carriage bushing design; thick bushings with 2 shims for better dimensional stability. Bushings are secured by bushing retainers.
- Bushings are grooved to minimize the effect of dirt and debris.
- Cartridge doors secure and bias print heads into proper position.
- One-step cartridge installation process; remove tape and install.



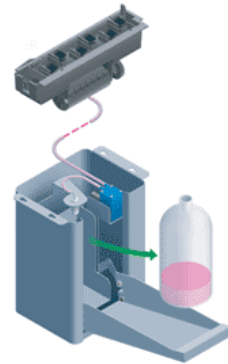
f. Cartridge / Printhead:

- Increased productivity with 640 nozzle print heads.
- Clean hands shipping and installation.
- Foam filled, eliminate tubing and needles.
- Ink filter.
- 700 ml warranty; 2800 ml shutoff.
- 1400 ml average print head life.



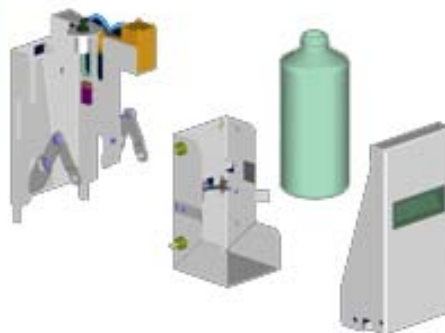
g. Service Station:

- Clean hands cartridge maintenance through service station (Cartridge cleaning/System Prime).
- Ink is deposited into a waste disposal bottle.



h. Auto Clean Unit:

- Door Magnet
- Suction pump/motor (used for priming ink lines)
- Bottle full sensor (IR)
- Ink waste bottle
- Bottle present/empty sensor (IR)



4. Media Handling System

- Four media supply modes are available: Sheet, Roll, Roll 2 and TakeUp
- Media rolls can be easily exchanged with the removable media spindles
- The Autoload paper sensor has a 6 second delay when media is manually loaded at rear of printer
- The Roll 2 mode allows for a second roll of media to be loaded onto the lower roller (no takeup mode available)
- The lower roller, new heavy duty stepper motor, and new pinch roller design help better control feed, paper travel and line length accuracy.



5. Print Speeds:

60 inch printer

High Speed Mode (2 pass): 220 sfph (20.4 smph)
Productivity Mode (3 pass): 150 sfph (14 smph)
Fine Mode (4 pass): 115 sfph (10.7 smph)
Enhanced Mode (6 pass): 75 sfph (7.0 smph)
8-Pass Print Mode 58 sfph (5.39 smph)
12-Pass Print Mode 37 sfph (3.44 smph)
High Quality (16 pass): 26 sfph (2.8 smph)



42 inch printer

High Speed Mode (2 pass): 195 sfph (18.1 smph)
Productivity Mode (3 pass): 140 sfph (13.0 smph)
Fine Mode (4 pass): 104 sfph (9.6 smph)
Enhanced Mode (6 pass): 70 sfph (6.5 smph)
High Quality (16 pass): 23 sfph (2.5 smph)

Note: printer ships with 64 MB SDRAM and is not up gradable; 32 MB RAM on Main PWA; HP-GL/2 (vector file formats) is not supported

6. Power Supply:

Input Operating Range

90 – 132 and 180 – 264 VAC

Input Operating Frequency Range

43 – 67 Hz

Power Consumption

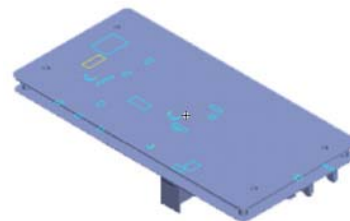
Typical: 1035 W; Idle: 20 W; Maximum: 1225 W

Output Voltage

24 VDC

Output Current

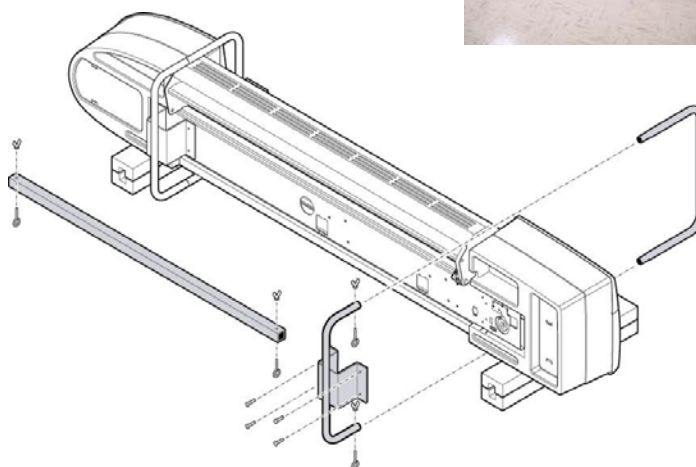
8.3 Amp. Maximum



Printer Installation *(Quick Steps)*

Step 1: Shipping Brackets Removal

- Rotate printer head box 90 degrees onto one side and remove printer from large shipping box by pulling out and away from box.
- Before removing the shipping support brackets ensure the printer is properly placed and balanced on two or three strips of packing foam provided.
- Remove the two (2) bolts securing the metal crossbeam between the support brackets.
- Remove upper and lower shipping support brackets (four bolts total) and install appropriate stand leg to balance the printer. Remove wing nut, retaining bolt, and 4 screws.

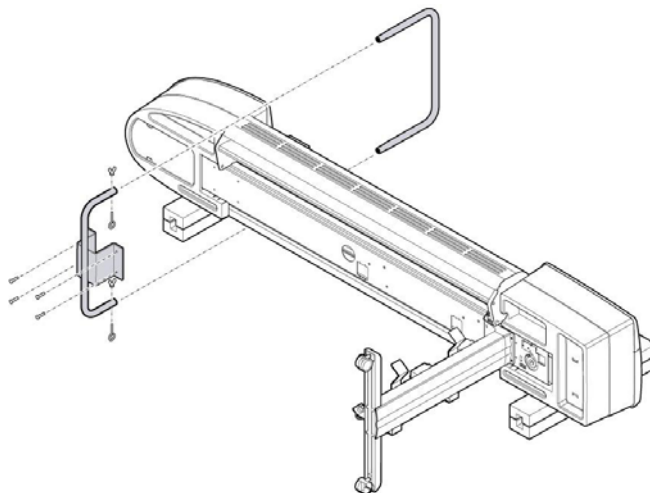


Step 2: Media System Installation (1 electrical connection)

- When installing the right stand leg attach electrical plug connection to printer base; ensure the plug is aligned straight and square onto the connector to prevent damage to the electrical pins. **CAUTION:** plug pins are extremely fragile; ensure restraining clips are secure.
- 'Loosely' attach the eight (8) stand leg screws to the printer base; this will allow for proper installation of the stand's crossbar.



CAUTION:
Avoid pushing
plug into the
platen assembly.



NOTE: It is suggested to assemble the right stand leg first, then attach the assembly to the printer. Repeat with left stand leg assembly. Do not 'completely' tighten the screws between stand legs and platen – only perform after the crossbar has been installed.



Step 3: Crossbar Installation

- Install crossbar between stand legs and tighten four (4) securing screws.
- Tighten the eight (8) stand leg screws after the crossbar has been properly installed.

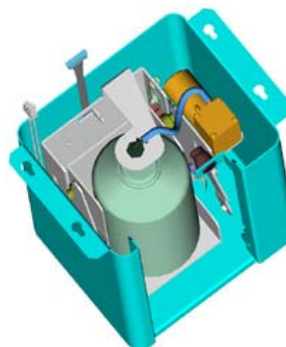


Step 4: Auto Clean Unit System (2 electrical connections/1 tubing connection)

- To attach the auto clean unit first connect the ink tube line to the pump nipple. Attach both electrical plug connections to respective jacks. Angle the assembly at a 45 degree angle to connect over the 4 securing screws. Tighten four (4) securing screws.

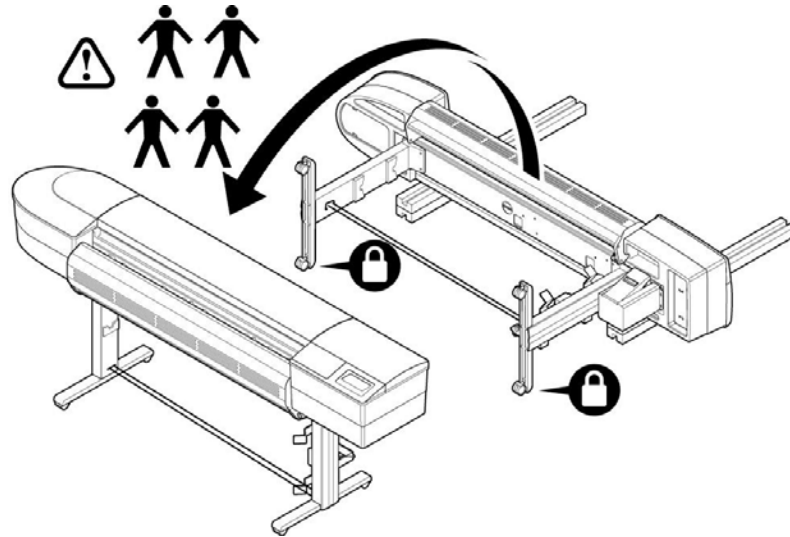


- Verify the disposal bottle is installed and tubing connections to bottle are intact.



Step 5: Raise Printer

- Using a four (4) person lift gently raise printer to the standing position.



Step 6: Voltage Configuration (for dryer system)

Prior to powering on printer ensure the voltage selector switch is set to either 115V or 230V depending on line source.

NOTE 1: The voltage selector ships in the 230V position.

NOTE 2: the circuit breaker will 'pop' out in an over-current condition and will need to be replaced if this occurs.



Step 7: Reservoir Installation

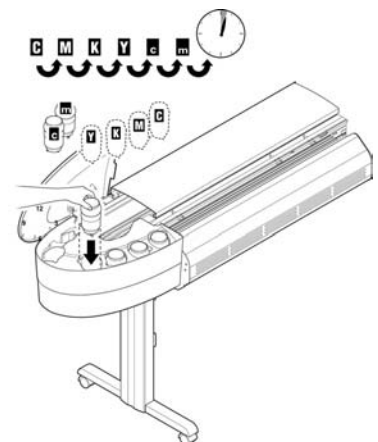
When installing the six (6) ink bottles ensure each bottle is installed straight up and down to avoid damaging pins at intermediate reservoir (located at base).

Firmware Note:

C1 = C_L

M1 = M_L

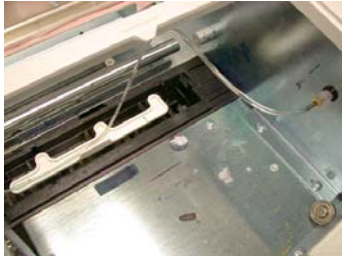
Note: wait 5 minutes prior to conducting line filling operation (using 'Pump On' from the control panel or ink line may not fill properly).



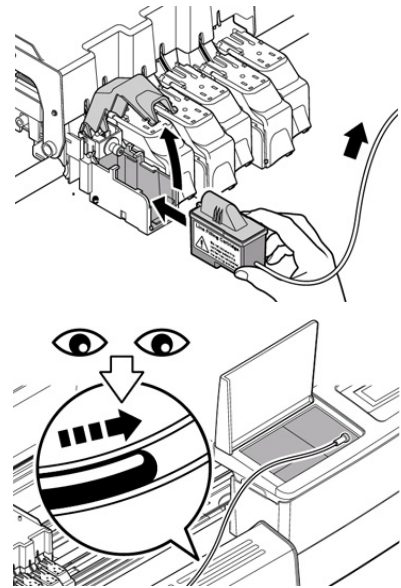
NOTE: during normal operation you will have only 30 seconds to change ink bottles during print operations or a printer STOP error will occur.

Step 8: Ink Line Filling

- After installing the 6 ink bottles and waiting 5 minutes, select 'Access Cartridges'.
- Install the **Cartridge with Tube Assembly** into the first stall position; attach tube needle to right side plate septum fitting (under access cover).



NOTE: the cartridge with tube assembly (+plug bar) ships in a small box within the printer head box.



- Activate tube fill by selecting and holding **Utility Menu - Prime Menu - Service Station Menu - 'Pump On'**.

- The fill process takes approximately 4-16 seconds per color. When ink reaches the cartridge tube release the 'Pump On' selection. Repeat procedure for remaining colors.



NOTE:
To flush the ink system refer to *Technical Bulletin 2*. Only use the authorized Flush Kit (part number 221984-00) to evacuate ink lines and clean the system of ink prior to printer transport.



Step 9: Cartridge Installation

Open cartridge door by pulling up on door at a 45 degree angle. Remove tape from cartridge. Slide cartridge into cartridge stall and close cartridge door until it locks.

Note: door must be closed to properly bias cartridge position.

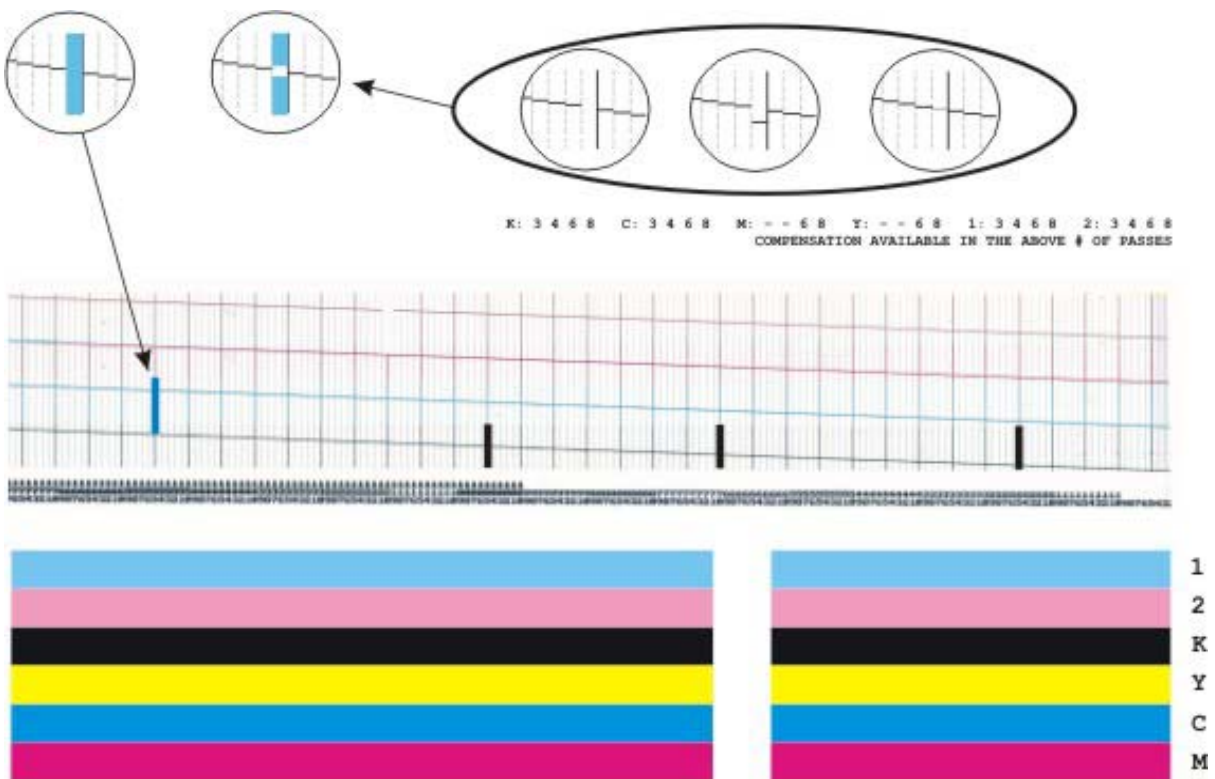


Step 10: Activate 'Prime All' Test Pattern

- To print the Prime pattern select **Utility Menu - Prime Menu - Prime All**. Verify print head nozzle performance - ensure diagonal lines are smooth and clogged jets are not present.

- If necessary perform Manual Jet Bypass for clogged or misfiring jets. Select **Utility Menu - Calibration Menu - Open Jet Menu - Edit List Menu**. Scroll to particular jet number which has the clog/problem and toggle off. Select Ok to save selection.

NOTE: A few 'streaks' or lines may appear in the pre-prime pattern area, this is considered normal due to the unique 640 jet pattern printed.



Step 11: Printer Calibrations

NOTE: Refer to Technical Bulletin 1 for the specific printing application required. Most customers should use the following procedure to obtain the best print quality output.

A. Activate the dryer system to warm the printer up for optimum calibration performance. Wait approximately 5 minutes after completing steps 1a and 1b below before proceeding to Step 2.

a) Set dryer to a heat setting of 4 (Low Heat, Fans). At control panel select **Setup Menu – Dryer Menu - Dryer Setting**. Select Next or Prev to a setting of 4 and press Ok.

b) Activate the dryer. At control panel select **Utility Menu – Service Menu – Diagnostics Menu – Accessory Menu – Dryer Status**. The T1 and T2 (temperature sensors) will begin to slowly climb to the target temperature value (i.e. 40 degrees C).

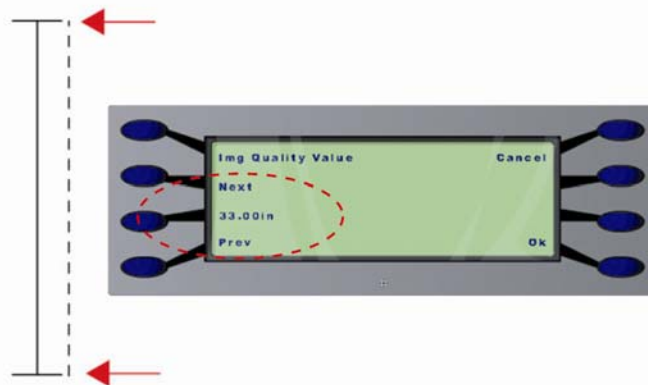
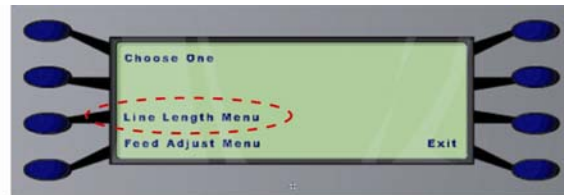
NOTE: the new calibration menu structure is different from the previous firmware version; please review the 3 calibration paths available:

B. Activate the Line Length Test under Line Length Menu (**Utility Menu – Calibration Menu – Paper Calib Menu - Line Length Menu – Line Length Test**), using a draftsman ruler, measure and enter exact value under **Image Quality Value** (i.e. 33.02 inches/83.90 cm).

NOTE: a 35 inch ruler print file is provided on the System CD or may be downloaded from the Encad support web site
<http://www.encad.com/Support/Tech-Support-Resources/RTL-Test-Image-Downloads/index.asp>

The file can be printed using the EFPU program supplied on System CD (load software utilities) or can be obtained from the following link:

<http://www.encad.com/Support/Tech-Support-Resources/ENCAD-Tech-Support-Utilities/index.asp>



C. When printer calibration is complete the printer will display the Save User screen. Select a save user number (i.e. 1 through 8) to be assigned for the media type currently loaded. Select Ok.



Example Assignments:

User 1: Photo Satin, 180 g
 User 2: Premium Backlit, 7 mil
 User 3: PP GLs, 8 mil
 User 4: Rapid Dry GLs, 190 g
 User 5: Photo GLs, 160 g
 User 6: Water Res Vinyl

A calibration complete message will be displayed on the control panel display. Select Ok.



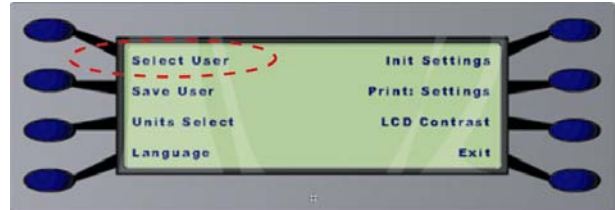
NOTE 1: do not select 'Select User' or any previously entered data will be overwritten.



NOTE 2: When new media is loaded (or changed) the unique user setting assigned must be chosen, select **Setup Menu – User Setup Menu – Select User**. Select the user number (1 through 8) that was assigned for a particular media type. Select Ok.

Example Assignments:

User 1: Photo Satin, 180 g
 User 2: Premium Backlit, 7 mil
 User 3: PP Gls, 8 mil
 User 4: Rapid Dry Gls, 190 g
 User 5: Photo Gls, 160 g
 User 6: Water Res Vinyl

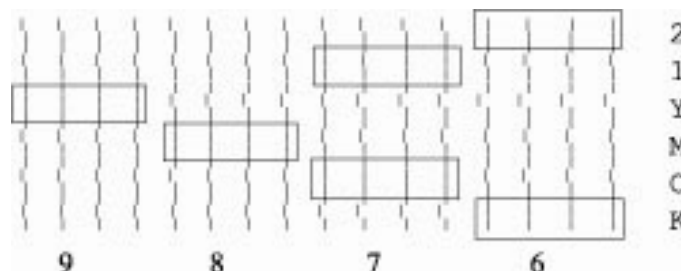


NOTE 3: If the printer is powered off and on, User Setting 1 is automatically initialized as a default operational setting. Refer to NOTE 2 above to “set” the proper calibration value for the media type loaded. If the incorrect user setting is used then banding in printed output may result due to the incorrect paper feed value being utilized. Media Feed Adjust controls are better optimized and controlled from the Kodak 1200i software suite.

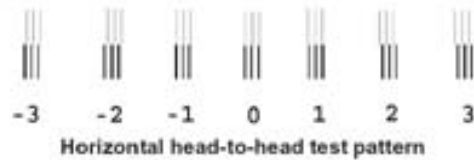
D. Perform the other 3 calibrations as normal (Color Deadband, Color Calibration Horizontal, and Color Calibration Vertical):



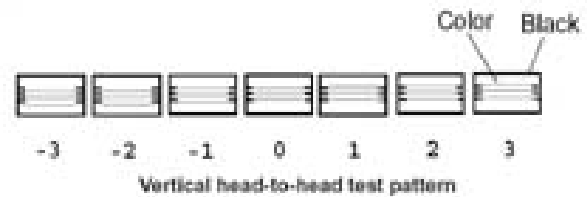
- a) **Color Db.** Select Utility **Menu – Calibration Menu – Color Db Menu – Color Db Test**. Choose best group of aligned bars for each color. Perform whenever a new cartridge is installed.



- b) **Color Cal Horizontal.** Select **Utility Menu – Calibration Menu – Color Calib Menu - Horiz. Calib Test.** Choose best group of aligned bars for each set of colors. Perform whenever a cartridge is removed.



- c) **Color Cal Vertical.** Select **Utility Menu – Calibration Menu – Color Calib Menu - Vert. Calib Test.** Choose best group of aligned bars for each set of colors. Perform whenever a cartridge is removed or if the feed adjust value is adjusted.



E. Activate the Internal Test Print. Select **Utility Menu – Service Menu – Test Print.** This will help verify the printer calibrations are correct. Inspect the vertical and horizontal alignment between all colors in the upper two sections of the test print. If vertical or horizontal alignment is not achieved then repeat step D.



Step 12: Best Quality Mode

To obtain the highest or optimum print quality mode from the printer place the print pass mode to 16. To set the print-pass mode. **Print pass mode will impact image output quality – refer to the guidelines in the chart below:**

Print Pass Modes: 2, 3, 4, 6, 8, 10, 12, 16

High speed print modes shown in BLACK

Default print mode shown in RED

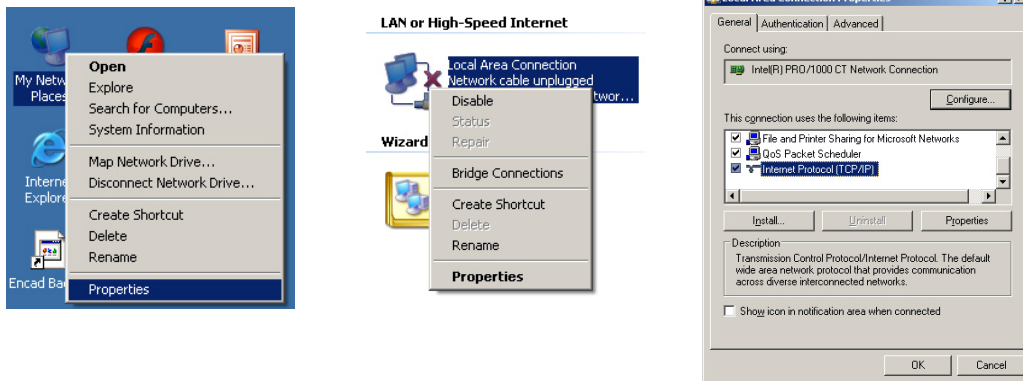
Quality print modes shown in BLUE

Step 13. Networking (Peer-to-peer - Windows 2000/XP example)

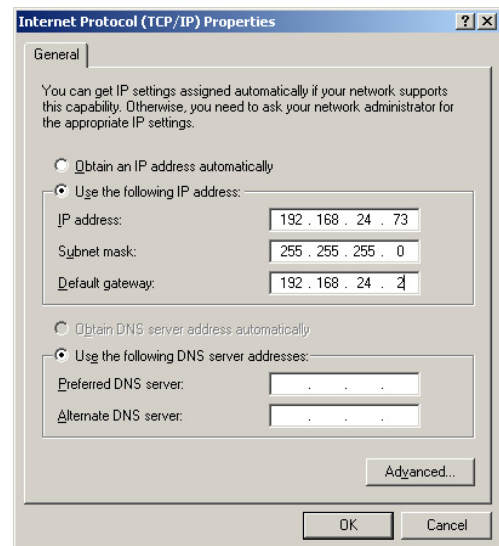
The basic printer networking process is generally a 7-step process, but may vary depending on network configuration/support. Refer to User System CD for additional networking information as necessary.

1). At the host computer (i.e. RIP workstation) assign network address settings.

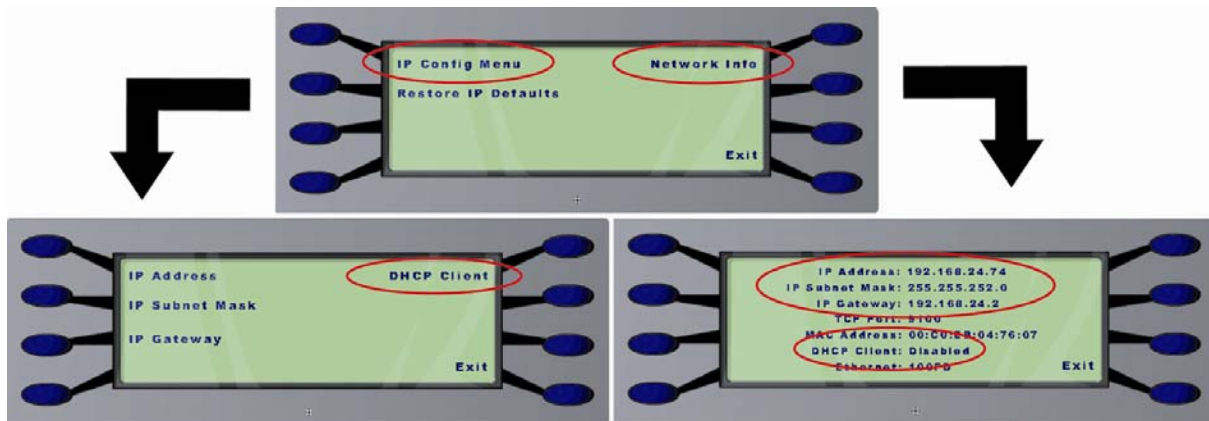
a) At desktop right click on 'My Network Places' and select 'Properties'. At Local Area Connection window right click and select 'Properties'. At local area connection window select Internet Protocol and select 'Properties'. If a TCP/IP protocol is not listed then go ahead and install a TCP/IP protocol.



b) Assign workstation IP address (this address should be one number different, or very close to, from the printer's address for best results, i.e. 192.168.24.73). Assign the **Subnet mask** and **Default gateway** address (these addresses will match the printer). DNS addresses are not required unless internet/web access is going to be assigned and available.



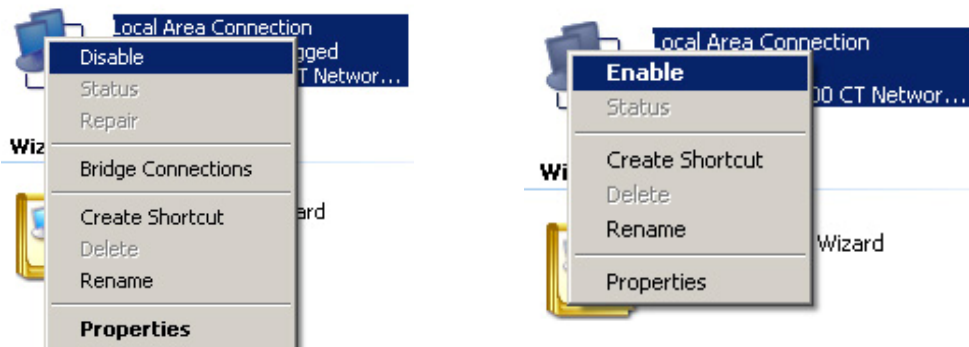
2). Assign IP address at printer (i.e. 192.168.24.74) – stay in the same 'range' as host computer from step 1 (i.e. one number different from host workstation). Select **Setup Menu – Network Menu – IP Address**. Assign the **Subnet mask** and **Default Gateway** addresses, these addresses must be exactly the same as the host workstations. (see example above). Ensure DHCP (Dynamic Host Control Protocol) is **disabled** unless advised by a network administrator that it is required (a static IP address will need to be available in these types of configurations).



- 3). Connect Ethernet 'crossover' cable between the host workstation and the printer for direct connections (or an RJ-45 Ethernet patch cable from HUB/switch to printer if indirectly connected).

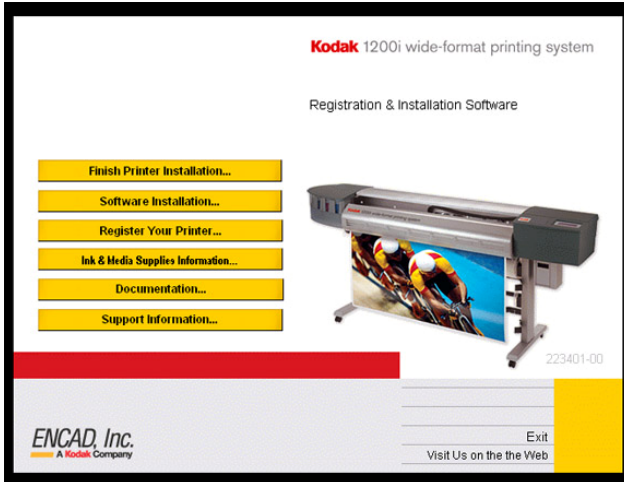


- 4). At desktop right click on 'My Network Places' again and select 'Properties'. At Local Area Connection window select '**Disable**'. Then select '**Enable**'; this will ensure the IP addressing has been refreshed (sometimes required on Win 2000/XP systems).



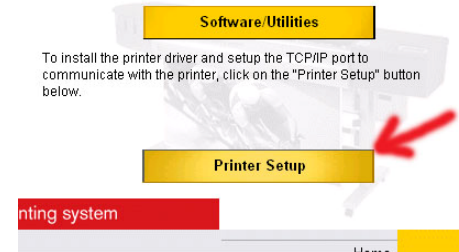
5). Load Windows Driver

- a) Load the Kodak 1200i System CD into CD-ROM drive (CD should launch automatically). Select **Software Installation**, then **Printer Setup**.

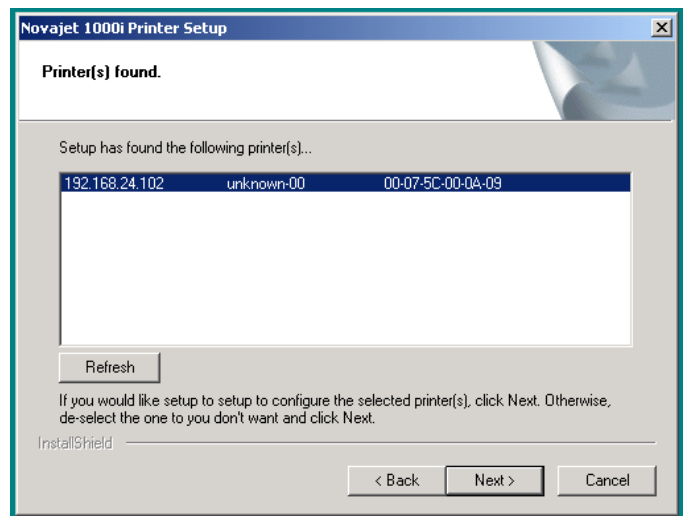


Install Software

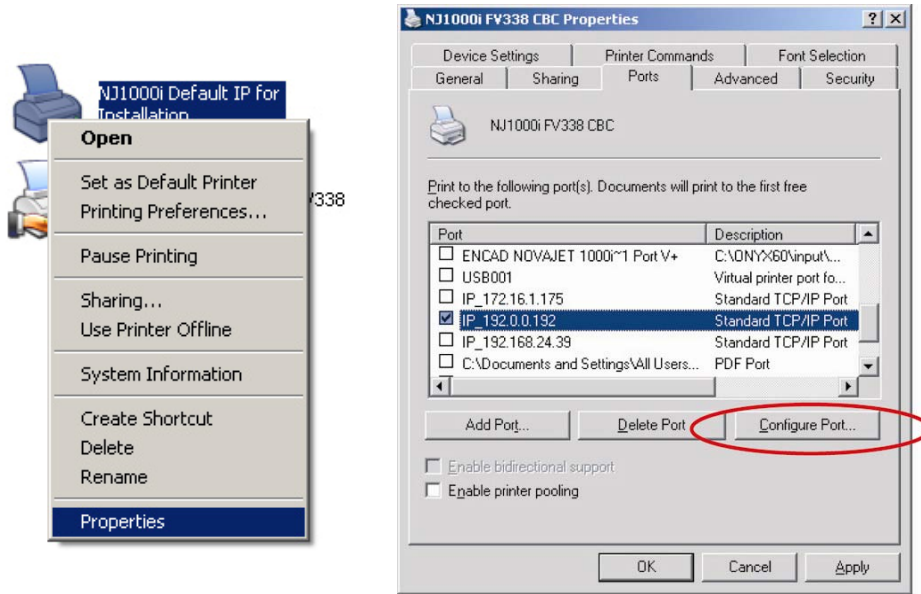
This will install the full Kodak 1200i software suite. To install the Software and Utilities, Click on the "Software/Utilities" button below.



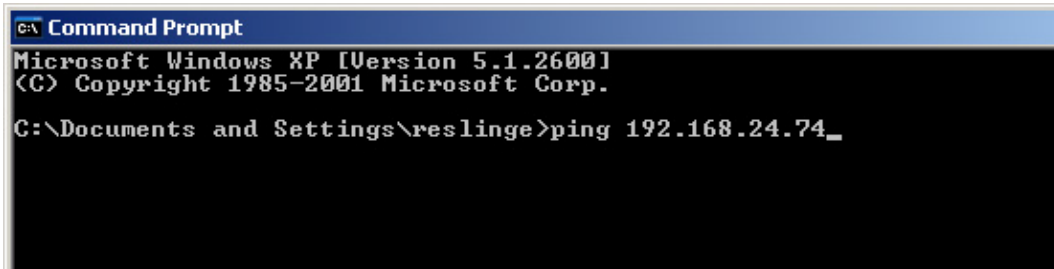
- b) A Windows driver will be loaded (just follow the default button selections). If configuration is successful the printer will be automatically detected across the new network (Note: the picture at right is an example only; printer name and IP address should be displayed correctly). If the printer is not located perform steps 1-5 again.
NOTE: Ensure Subnet mask and Default Gateway addresses are assigned and are the same at both the printer and the workstation.



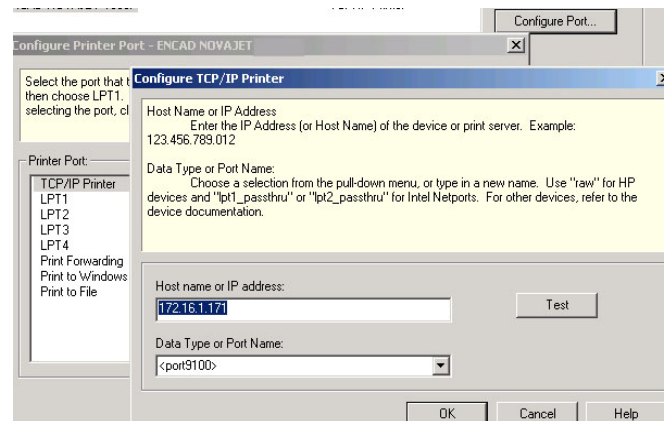
- c) **NOTE:** If steps a. and b. above are unsuccessful then install a standard TCP/IP printer port driver and configure or assign an IP address to an existing NJ1000i/Kodak 1200i printer driver (or TCP/IP port) to match the printers IP address. *If necessary add a Standard TCP/IP driver (load Generic text only driver) if not already installed.* Open up Printers (**START – SETTINGS – PRINTERS**). Select an existing TCP/IP port and choose 'Configure Port' if making a modification; please note the port name will stay the same.



- 6). At Command Prompt, ping the printer to verify connectivity between computer and the printer. At computer select **START – PROGRAMS – ACCESSORIES – COMMAND PROMPT** (or similar). Type: **ping 192.168.24.74** (as an example) and select ENTER. Four (4) 'REPLY' messages should appear. If 'REQUESTED TIME OUT....' messages appear then connectivity is incorrect – verify steps 1 through 6 again.



- 7). Assign IP address at RIP (host workstation) and set data type. The IP address will be the same as the printer's IP address (i.e. **192.168.24.74**). Data type must be set to **<9100>** for proper data transfer to occur. Pictured below is ONYX's printer port setup splash screen; a port test may be activated once values are set – a 'Valid IP Address!' message should appear. RIP and print operations may begin at this point.



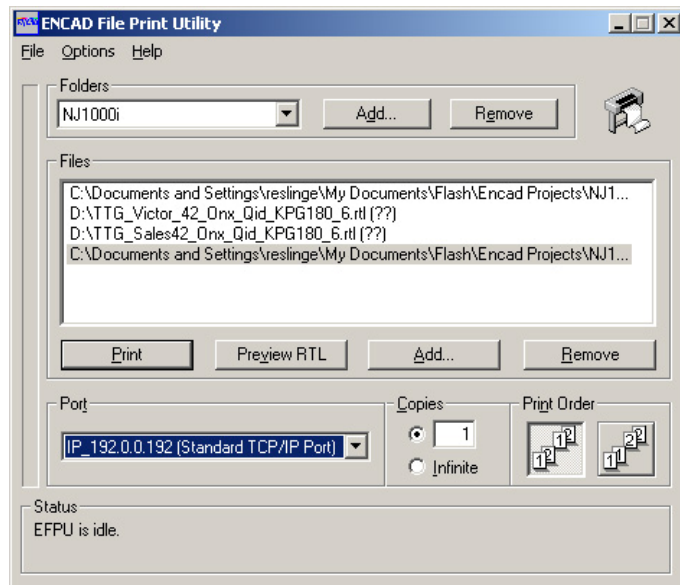
8). Configuration Double-check *(example only)*:

Workstation/Server: IP: 192.168.24.73 Subnet: 255.255.255.0 Gateway: 192.168.24.2 - Windows Driver Loaded	RIP: IP: 192.168.24.74 - uses Windows driver printer port	Printer: IP: 192.168.24.74 Subnet: 255.255.255.0 Gateway: 192.168.24.2
--	--	---

- 9). To further verify connectivity either send a test file to printer via RIP or from the EFP (Encad File Print Utility). Launch EFP (if previously loaded) or load EFP (from User System CD, select Software Utilities, located EFP utility and load). Select port previously configured (normally identified by a default IP address the first time loaded). Select the printer test file (link and open an xxxxxx.rtl file from System CD images subfolder) and select 'PRINT'. Printer should start printing within 30 seconds if sending pre-ripped files to printer. To download printer firmware (product enhancements/bug fixes) perform same procedure with a firmware file (.rom file; may be obtained from www.encad.com); printer will sound a beep after approximately 60 seconds and reboot power automatically.



NOTE: To function, the EFP utility may require a LPT port be available. Add a printer port and assign to a local LPT port if necessary.



Step 14: Print Mode & Dryer Guidelines

NOTE: Go here for the most up-to-date information: <http://www.encad.com/Printers/Kodak1200i/index.asp>

Qi Dye		
	Recommended Printer Heater Setting (1)	Recommended Print Mode*
Photographic Papers		
Kodak Premium Rapid-Dry Photographic Glossy / 260g (9 mil)	2	Production (3 Bi 10)
Kodak Premium Rapid-Dry Photographic Lustre / 260g (9 mil)	2	Production (3 Bi 10)
Kodak Rapid-Dry Photographic Glossy Paper / 190g (7 mil)	2	Production (3 Bi 10)
Kodak Rapid-Dry Photographic Satin Paper / 190g (7 mil)	2	Production (3 Bi 10)
Kodak Premium Photographic Glossy Paper / 270g (10 mil)	4	Production (3 Bi 10)
Kodak Premium Photographic Glossy Paper / 180g (8 mil)	4	Production (3 Bi 10)
Kodak Premium Photographic Satin Paper / 180g (8 mil)	6	Production (3 Bi 10)
Kodak Premium Photographic Matte Paper / 180g (8 mil)	4	Production (3 Bi 10)
Kodak Production Photographic Glossy Paper / 170g (7 mil)	10	Production (3 Bi 10)
Kodak Production Photographic Satin Paper / 170g (7 mil)	10	Production (3 Bi 10)
Photographic Films		
Kodak Premium Backlit Film / 7 mil	10 (No Fans)	Production (3 Bi 10)
Kodak Universal Backlit Film / 8 mil	2	Production (3 Bi 10)
Kodak Production Backlit Film / 7 mil	Fans Only	Enhanced (6 Bi 10)
Kodak Production Reverse Print Backlit Film / 5 mil	4	Enhanced (6 Bi 10)
Kodak Premium White Film / 5 mil	6	Production (3 Bi 10)
Kodak Production Glossy Poly Poster Plus / 8 mil	10	Production (3 Bi 10)
Kodak Production Satin Poly Poster Plus / 8 mil	10	Production (3 Bi 10)
Kodak Production Self-Adhesive Glossy Poly Poster Plus / 6 mil	10	Production (3 Bi 10)
Kodak Production Self-Adhesive Satin Poly Poster Plus / 6 mil	10	Production (3 Bi 10)
Kodak Self-Adhesive Glossy Poly Poster / 120g	10	Production (3 Bi 10)
Kodak Self-Adhesive Matte Poly Poster / 120g	10	Production (3 Bi 10)
Coated Papers		
Kodak Coated Matte Print Paper / 140g (6 mil)	(1) Fans Only	Fine (4 Bi 10)
Kodak Coated Matte Print Paper / 90g (4 mil)	(1) Fans Only	Fine (4 Bi 10)
Kodak Self-Adhesive Coated Matte Print Paper / 100g (7 mil)	(1) Fans Only	Production (3 Bi 10)
Vinyl & Banners		
Kodak Water-Resistant Removable Vinyl / 6 mil	2	User Defined (8 Bi 10)
Kodak GO Water-Resistant Self-Adhesive Vinyl / 6 mil	2	Enhanced (6 Bi 10)
Kodak Water-Resistant Scrim Banner / 17 mil	6	Enhanced (6 Bi 10)
Kodak Water-Resistant Poly Poster Matte / 8 mil	2	User Defined (8 Bi 10)
Kodak Water-Resistant Self-Adhesive Poly Poster Matte / 9 mil	2	User Defined (8 Bi 10)
Kodak Production Removable Glossy Vinyl / 6 mil	10	Production (3 Bi 10)
Kodak Production Removable Satin Vinyl / 6 mil	10	Production (3 Bi 10)
Canvas		
Kodak Artists' Semigloss Canvas / 20 mil	(1) Fans Only	Production (3 Bi 10)
Kodak Matte Canvas / 19 mil	(1) Fans Only	Production (3 Bi 10)

(1): Based on room conditions of 23C/50% RH. *: Recommended mode for photo image quality 3 Bi 10 = 3 pass, bidirectional, 10 speed 4 Bi 10 = 4 pass, bidirectional, 10 speed 6 Bi 10 = 6 pass, bidirectional, 10 speed 8 Bi 10 = 8 pass, bidirectional, 10 speed

Qi Pigment		
	Recommended Printer Heater Setting (1)	Recommended Print Mode*
Photographic Papers		
Kodak Premium Rapid-Dry Photographic Glossy / 260g (9 mil)	2	Fine (4 Bi 10)
Kodak Premium Rapid-Dry Photographic Lustre / 260g (9 mil)	2	Fine (4 Bi 10)
Kodak Rapid-Dry Photographic Glossy Paper / 190g (8 mil)	2	Fine (4 Bi 10)
Kodak Rapid-Dry Photographic Satin Paper / 190g (8 mil)	2	Fine (4 Bi 10)
Photographic Films		
Kodak Universal Backlit Film / 8 mil	2	Production (3 Bi 10)
Coated Papers		
Kodak Coated Matte Print Paper / 140g (6 mil)	Fans Only	Enhanced (6 Bi 10)
Kodak Self-Adhesive Coated Matte Print Paper / 100g (7 mil)	Fans Only	Fine (4 Bi 10)
Vinyl & Banners		
Kodak Water-Resistant Removable Vinyl / 6 mil	2	User Defined (8 Bi 10)
Kodak GO Water-Resistant Self-Adhesive Vinyl / 6 mil	2	Enhanced (6 Bi 10)
Kodak Water-Resistant Scrim Banner / 17 mil	6	Enhanced (6 Bi 10)
Kodak Water-Resistant Poly Poster Matte / 8 mil	2	Enhanced (6 Bi 10)
Kodak Water-Resistant Self-Adhesive Poly Poster Matte / 9 mil	2	Enhanced (6 Bi 10)
Canvas		
Kodak Artists' Semigloss Canvas / 20 mil	2	Production (3 Bi 10)
Kodak Matte Canvas / 19 mil	Fans Only	Fine (4 Bi 10)

(1): Based on room conditions of 23C/50% RH. *: Recommended mode for photo image quality 3
 Bi 10 = 3 pass, bidirectional, 10 speed 4 Bi 10 = 4 pass, bidirectional, 10 speed 6 Bi 10 = 6 pass, bidirectional, 10 speed 8 Bi 10 = 8 pass, bidirectional, 10 speed

NOTE: If dryer temperature is too high on certain backlit media vertical banding (swaths) may be observed in printed output. Lower the dryer temperature if this occurs.

Step 15: Lamination Guidelines

Kodak Media Lamination Reference for Kodak 1200i Printer

<i>Qi Dye</i>	Lamination Compatibility#			
	Heat Activated Thermal	Heat Activated Low Temperature	Heat Assisted	Pressure Sensitive Ambient
<i>Photographic</i>				
Kodak Rapid-Dry Photographic Glossy Paper / 200g (8 mil)	Yes	Yes	Yes	Yes
Kodak Rapid-Dry Photographic Satin Paper / 200g (8 mil)	Yes	Yes	Yes	Yes
Kodak Premium Photographic Glossy Paper / 270g (10 mil)	Yes	Yes	Yes	Yes
Kodak Premium Photographic Glossy Paper / 180g (8 mil)	Yes	Yes	Yes	Yes
Kodak Premium Photographic Satin Paper / 180g (8 mil)	Yes	Yes	Yes	Yes
Kodak Premium Photographic Matte Paper / 180g (8 mil)	Yes	Yes	Yes	Yes
Kodak Economy Photographic Glossy Paper / 160g (6 mil)	No	No	No	Yes
Kodak Economy Photographic Satin Paper / 160g (6 mil)	No	No	No	Yes
<i>Coated</i>				
Kodak Coated Matte Print Paper / 140g (6 mil)	No	No	Yes	Yes
Kodak Coated Matte Print Paper / 90g (4 mil)	No	No	Yes	Yes
Kodak Self-Adhesive Coated Matte Print Paper / 100g (7 mil)	No	Yes	Yes	Yes
<i>Film</i>				
<i>Indoor:</i>				
Kodak Premium Backlit Film (7 mil)	Yes	Yes	Yes	Yes
Kodak Premium White Film (5 mil)	Yes	Yes	Yes	Yes
Reverse Print Backlit VS (5 mil)	No	No	Yes	Yes
Kodak Poly Poster Glossy (7 mil)	No	No	No	Yes
Kodak Poly Poster Satin (7 mil)	No	No	No	Yes
<i>Indoor/Outdoor:</i>				
Kodak Reverse Print Backlit Film (6 mil)	Yes	No	No	Yes
Kodak Water-Resistant Backlit Film (8 mil)	Yes	No	Yes	Yes
Kodak Water-Resistant Poly Poster Matte (8 mil)	Yes	Yes	Yes	Yes
Kodak Water-Resistant Self-Adhesive Poly Poster Matte (9 mil)	Yes	Yes	Yes	Yes
Kodak Self-Adhesive Glossy Poly Poster (120g)	No	No	No	Yes
Kodak Self-Adhesive Matte Poly Poster (120g)	No	No	No	Yes
<i>Vinyl</i>				
Kodak GO Water-Resistant Scrim Vinyl	No	NA	NA	Yes
Kodak GO Water-Resistant Self-Adhesive Vinyl	No	Yes	Yes	Yes
KODAK Water-Resistant Removable Vinyl	No	Yes	Yes	Yes
KODAK Water-Resistant Scrim Banner	No	No	No	Yes
<i>Specialty</i>				
<i>Fine Art:</i>				
Kodak Artists' Semigloss Canvas (20 mil)	NA	NA	NA	NA
Kodak Matte Canvas (19 mil)	No	No	No	Yes
<i>Indoor/Outdoor:</i>				
Kodak GO Banner/Dupont® Tyvek material (9 mil)	Yes	Yes	Yes	Yes
Kodak GO Wet Strength Paper (11 mil)	Yes	Yes	Yes	Yes
Kodak GO Polyethylene Banner (10 mil)	Yes	Yes	Yes	Yes
Kodak Water-Resistant Reinforced Flex Banner (15 mil)	Yes	Yes	Yes	Yes

NA = Not Applicable

#: Check with laminate manufacturer for suitability of outdoor use

*: Recommended mode for photo image quality

Kodak Media Lamination Reference for Kodak 1200i Printer

Qi Pigment	Lamination Compatibility#			
	Heat Activated Thermal	Heat Activated Low Temperature	Heat Assisted	Pressure Sensitive Ambient
Photographic				
Kodak Rapid-Dry Photographic Glossy Paper / 200g (8 mil)	Yes	Yes	Yes	Yes
Kodak Rapid-Dry Photographic Satin Paper / 200g (8 mil)	Yes	Yes	Yes	Yes
Coated				
Kodak Coated Matte Print Paper / 140g (6 mil)	No	No	Yes	Yes
Kodak Self-Adhesive Coated Matte Print Paper / 100g (7 mil)	No	No	Yes	Yes
Film				
Indoor/Outdoor:				
Kodak Reverse Print Backlit Film (6 mil)	Yes	No	Yes	Yes
Kodak Water-Resistant Backlit Film (8 mil)	Yes	Yes	Yes	Yes
Kodak Water-Resistant Poly Poster Matte (8mil)	Yes	Yes	Yes	Yes
Kodak Water-Resistant Self-Adhesive Poly Poster Matte (9 mil)	Yes	Yes	Yes	Yes
Vinyl				
Kodak GO Water-Resistant Scrim Vinyl	No	NA	NA	Yes
Kodak GO Water-Resistant Self-Adhesive Vinyl	No	Yes	Yes	Yes
KODAK Water-Resistant Removable Vinyl	No	Yes	Yes	Yes
KODAK Water-Resistant Scrim Banner	No	No	No	Yes
Specialty				
Fine Art:				
Kodak Artists' Semigloss Canvas (20 mil)	NA	NA	NA	NA
Kodak Matte Canvas (19 mil)	No	No	No	Yes
Indoor/Outdoor				
Kodak GO Banner/Dupont® Tyvek material (9 mil)	Yes	Yes	Yes	Yes
Kodak GO Wet Strength Paper (11 mil)	Yes	Yes	Yes	Yes
Kodak GO Polyethylene Banner (10 mil)	Yes	Yes	Yes	Yes
Kodak Water-Resistant Reinforced Flex Banner (15 mil)	Yes	Yes	Yes	Yes

NA = Not Applicable

#: Check with laminate manufacturer for suitability of outdoor use

*: Recommended mode for photo image quality

Printer Operation Tips

1. Media Load and Verification

- Install media onto spindle and attach the media guide and tighten the blue locking nut. Verify spindle gears mesh properly. Ensure left media guide is locked next to the white alignment mark. Adjust right media guide to within 2 mm of media edge. Load media into the rear of printer, align with white alignment mark.

NOTE: paper will be automatically advanced following a 6 second delay and then measured. Verify load was successful under **Utility Menu - Display Settings**.



- Install the front left and right Paper Guides (these help guide media under the air plenum) and install the magnetic media holders (help prevent media head strike) onto the Y-Arm directly above the left and right edges of the media surface (**NOTE: illustrated in yellow below; parts are actually black or white in color**).



NOTE: After loading media a friendly reminder control panel message 'Warning – Adjust Rear Paper Guides...' will appear.

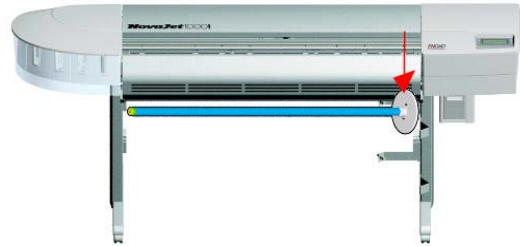
- Ensure both rear paper guides are not touching media edges (2 mm offset minimum on both sides). This is very important as media drag may occur at either the left or right sides (causes left or right side micro-banding). Also ensure media is not rubbing or 'climbing' over guides at any time during printing.



CAUTION: once media has been aligned and guides have been set, typically the media may "glide" against one guide or the other but not to the point where media jumps on top of the guide (see picture at left). Verify media is initially loaded with the offset to ensure that the media is not wedged between the two guides. This can lead to left or right side horizontal banding on printed output.

2. The 'Perfect' Media Load

- After loading media in the normal routine, it is best to perform a 'perfect media load'. Hold the feed roller guide (round plastic guide) at right side with one hand and then simultaneously press the **Feed Media - Forward** button. Drive media forward until it pulls against the media roll, keep holding (do not allow guide to rotate) for another 10 seconds or so - resistance is the key to pull the media straight.



NOTE: the media guides should be pulled all the way out when loading media (see **Caution above**). Also, once the media is tight, driving media 'forward' aids in alignment.

3. Dryer Modes

To activate the drying system, select **Setup Menu - Dryer Menu**. Scroll through available selections. 12 dryer modes are available; refer to dryer matrix label affixed to printer's top cover or [Installation Step #14 above](#) for specific modes of operation.



- 0 = OFF
- 1 = Fans Only
- 2 = Minimum, Fans On
- 3 = Minimum
- 4 = Heat Low, Fans On
- 5 = Heat Low
- 6 = Heat Medium, Fans On
- 7 = Heat Medium
- 8 = Heat High, Fans On
- 9 = Heat High
- 10 = Maximum, Fans On
- 11 = Maximum

NOTE 1: The air plenum may be lowered to the maintenance position by removing 2 locking pins and gently lowering plenum. The air plenum should be only be lowered when performing printer calibrations and replacing cartridges.

NOTE 2: The air plenum may also be completely removed for certain media print applications (i.e. 50" bond media) where the media becomes obstructed by the air plenum. Contact technical support for assistance with removal.

4. Humidity Control

Ideal humidity for printing is between 45 and 55 percent, at a temperature of 68-72 degree F. (20-22.2 degrees C.)

Low Humidity problems:

- 1) Media warping and edge curl problems leads to visible carriage head strike on media surface.
- 2) Inconsistent print quality is normally observed in severe low humidity environments. To compensate more ink must be used to balance the color loss (need for color profiling).



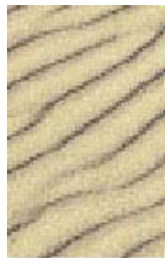
High humidity problems:

- 1) Dry time drastically increases with high humidity levels.
- 2) Lamination issues often result; increasing time required to finish jobs. Refer to [Installation Step #15 above](#) for lamination guidelines.

These problems can be avoided by maintaining proper temperature and humidity levels (RH) in both storage and operational areas. The use of humidifiers will add water to the air, resulting in a humidity level increase. This will help prevent normal heating season problems caused by dry air.

General Environmental Conditions

Controlling the print location and surrounding humidity is key toward maintaining good color output no matter what environment or region the printer is located in.



5. Edge Band mode

To eliminate instances of 'First Drop' (color change at print edges) from occurring ensure the Edge Band mode is turned on. Select **Setup Menu – Paper Option Menu – Margins**. By selecting Edge Band the printer will be forced into Normal Margins and a vertical bar of 6 colors will be printed along both media edges. This will force the cartridges to warm up by printing data outside the page layout, thus decreasing the chances of 'First Drop' from appearing along printed edges.



Software Control Tips

1. Typical Server Installation (one per subnet)

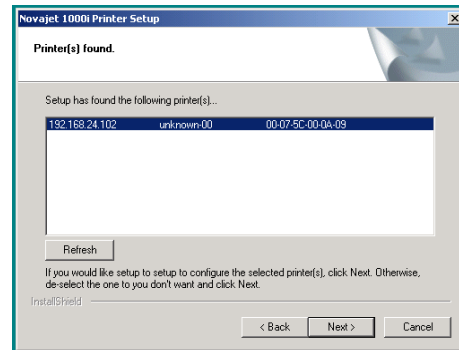
- For most installations perform the 'typical' installation of the Kodak 1200i software suite. This is ideal for most environments including those using a single computer single printer configuration. Note: this software only runs on Windows® 2000/2000/2003 Pro/Server and XP/XP Pro.

NOTE: Verify another Microsoft SQL database is not loaded or being used by customer on same subnet – do not load the software suite or conflicts may be encountered.

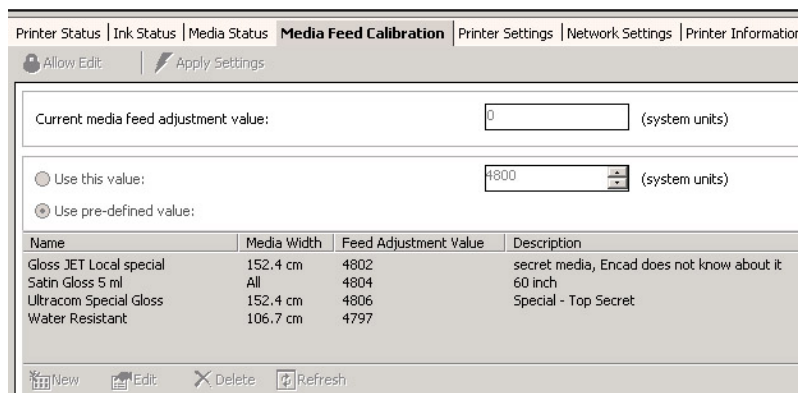
- For peer-to-peer connections use an Ethernet crossover cable otherwise use a regular Ethernet patch cable through a Switch (100FD capable). Configure the TCP/IP address either through the software installation instructions or directly at the printer under Setup Menu – Network Menu.

2. Client Installation (one per workstation)

- Install the Client Installation package onto additional workstations that will be printing to the printer (in addition to the server workstation). Note: the database program (MSDE) should only be installed onto the primary server workstation (one subnet per server).



NOTE: While the software suite is not required to run the RIP or drive the printer, the NJ1000i driver will normally need to be loaded for most RIPs to communicate properly with the printer (one exception is NT 4.0). The primary advantage of loading the printer software is easy setup on the network, job accounting features, **media feed calibration (best operational feature!)**, ink usage and allowing remote control over the printer settings. If the software is not registered the job accounting elements will become disabled after 90 plot hours – perform product registration via the Client software under Help.



Printer Maintenance

When a Print Head is Replaced:

A. Check for air bubbles in the ink delivery line after replacing a print head:

- Perform an "Access Cartridge"
- Check for air segments of more than 5mm in length in the ink tubes; air bubbles are acceptable but LARGE air segments are NOT acceptable.

Perfect



Air bubbles acceptable



NOT ACCEPTABLE



- If necessary, perform an ink load on ink lines which contain large air segments. Air bubbles will be removed by a System Prime (must have new service station and f/w 1.5.0 or greater already installed).
- Select **Utility Menu - Prime Menu - Serv. Station Menu - System Prime**. The System Prime will take approximately 60 seconds to complete; all bubbles should be removed.

B. If air segments remain or ink line is completely empty:

- Install the Plug Bar and attach the ink line fitting to right side plate septum fitting; remove the Print head and replace it with the Ink Load cartridge.



- Select **Utility Menu - Prime Menu - Serv. Station Menu - Pump On** (hold button for 15 seconds).



- If this problem appears frequently after removing and installing multiple print heads, then septum may need replacement (contact

service).

- C.** After replacing a print head, it is a good practice to run the System Prime. This will improve ink flow through the ink system and reduce print head errors.

NOTE: ensure printer is placed on a level floor surface to avoid ink starvation (which could cause 'MAX INK TEMP EXCEEDED' error messages) and related ink flow problems. Check printer levelness by placing a standard level on the platen surface (remove media from platen).



Perform the following:

- A System Prime:

Select Utility Menu - Prime Menu - Serv. Station Menu - System Prime

- Print a Prime Test to check that all nozzles are properly firing

Select Utility Menu - Prime Menu - Prime Single - Prime

- Perform Print head alignments:

Bi-directional alignment: **Utility Menu / Calibration Menu / Color Db Menu / Color Db Test**

Geometric print heads alignment: **Utility Menu / Calibration Menu / Color Calib Menu / Vert. Calib Test / Horiz. Calib Test**

Prime Test



Color Dead Band



Vertical Calibration



Horizontal Calibration



Routine Maintenance

IMPORTANT: It is **suggested to perform a weekly cleaning** action on the printer (i.e. **every Monday morning for 20 minutes**) instead of attempting to remember the user guide cleaning intervals.

A. Clean the following assemblies:

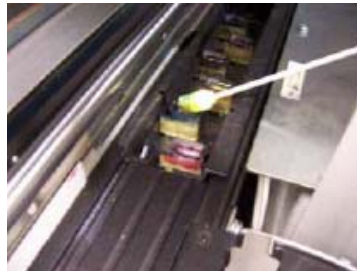
1. **Encoder Strip** (lint-free swabs dampened with Windex® or a mild dish soap and water solution). Thoroughly clean the top and bottom surfaces of the entire length of the encoder strip (including the area near the service station; access cartridges to move carriage out). Repeat procedure with new swabs until no ink residues are observed on swab surfaces.



NOTE: Windex solution should be mainly used on printers running pigment inks.

2. **Service Station** (lint-free towel/lint-free swab dampened with a mild dish soap & water solution). Gently clean service station seals & wipers; ensure the outside edges of the wipers are thoroughly cleaned.

CAUTION: do not remove the service station to clean (only Authorized Service Providers should remove the service station when necessary).



3. **Slide Shaft** (lint-free towel dampened with Windex solution or isopropyl alcohol). Thoroughly clean the entire length of the slide shaft, including the portion near the service station zone.

NOTE: do not apply solutions directly on the carriage bushings; allow shaft to dry before moving carriage assembly.



4. **Platen Surface & Cutter Groove** (lint-free swab/lint-free towel dampened with Windex or a mild dish soap & water solution). Remove media from printer and wipe down platen and cutter groove until ink residues are no longer visible on cleaning swab/towel. Using a toothpick or paperclip, gently remove paper fibers or similar debris from the cutter groove.



5. **Carriage Belt** (lint-free towel dampened with Windex or a mild dish soap & water solution). Thoroughly clean the entire length of the inside surface of carriage belt).



6. **Flex Driver Cables** (lint-free towel or lint-free swab dampened with Windex solution or isopropyl alcohol). Remove all print heads from carriage assembly. Thoroughly clean all 6 (six) carriage flex driver cables; ensure no lint fibers or ink residues remain on cable surfaces.

NOTE: Routine cleaning of the flex driver cables is very important when the printer is running in certain print modes [print pass modes 2, 3, 4 and GB Mode available in firmware >2.1.0].

NOTE 2: If ink residue is observed on cable surfaces at any time printing should be immediately suspended and a flex cable and rear cartridge cleaning maintenance actions should be performed. Also refer to section B below.



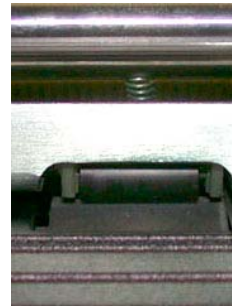
CAUTION: Print heads may become damaged if media is allowed to scrape against the lower jet plate surface during printing or through direct contact with ink residues on service station seals when the carriage is at the home position.

7. **Carriage Guide and Carriage Slider** (lint-free towel dampened with Windex or a mild dish soap & water solution). Thoroughly clean the printer rear plate carriage guide (horizontal shelf) and carriage slider. A dirty carriage guide and/or slider can lead to carriage vibration and printer banding.



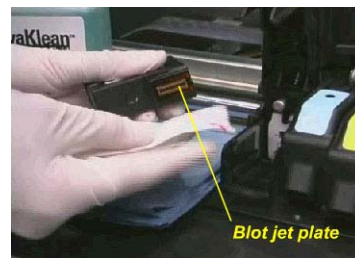
8. **Lower Roller/Pinch Rollers** (lint-free towel dampened with a mild dish soap & water solution). To clean, apply power to the printer. Advance rollers using the control panel's Feed Media menu, depress the Forward or Backward function. Ensure all rollers (6 or 8) are thoroughly cleaned.

NOTE: certain 3rd party vinyl media adhesive glues and print environments exposed to smoke and other contaminants have been found to adhere to roller surfaces.



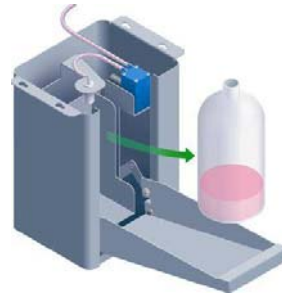
B. Clean the following items **as required**:

1. **Cartridge** (lint-free towel/foam swab dampened with a mild soap & water solution or isopropyl alcohol). Thoroughly wipe the print head rear electrical contacts of ink residues. Gently blot the jet plate surface (center strip) with a dampened lint-free towel to remove ink debris/build-up (DO NOT WIPE JET PLATE!)

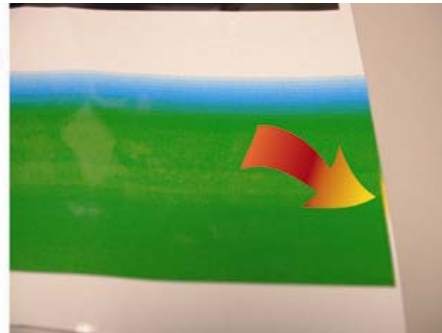


NOTE: The lower surfaces of the print head (adjacent to the jet plate center strip) should be thoroughly cleaned of all ink residues with a lint-free towel.

2. **Auto Clean Unit (Disposal) Bottle** (prompted by 'Empty Waste Bottle Now' control panel/software suite message). Open Auto Clean Unit door, remove bottle and dispose of ink in accordance with local guidelines).



3. **Encoder Sensor.** The carriage encoder sensor will likely get dirty ~600 plot hours and will need to be cleaned or image shifted output may be observed (see samples below). Typically, random horizontal bands will first appear in the printed output, followed by gradual image shift, then eventual data shift.



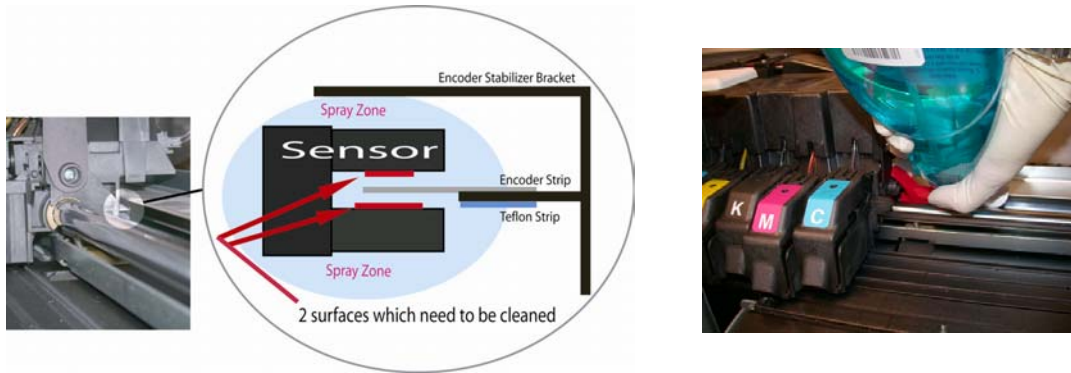
Cleaning Procedure:

- Remove power from printer.
- Manually move the carriage assembly to the extreme left side of the printing surface.
- Place absorbent towels around base of carriage assembly.
- Obtain Windex cleaning fluid and attach spray tube (internal tube may need to be cut to allow for inverted spray operation).



NOTE: Windex solution is strongly suggested for printers running the pigment ink set as the ink can be difficult to clean from surfaces.

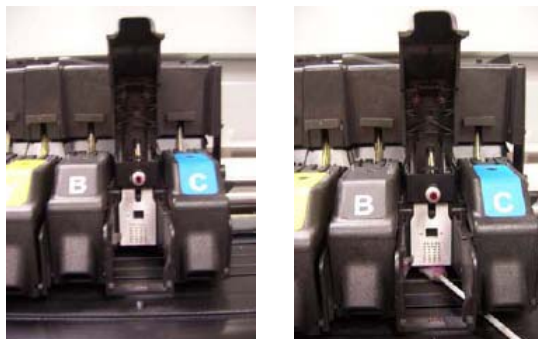
- Spray three (3) quick bursts of solution onto the encoder sensor spray zone (do not over saturate the carriage!). Refer to the illustration below.
- Obtain canned air and blow area clean for one second.
- Allow printer to dry for 10 minutes.
- Apply power to printer and resume printer operations.



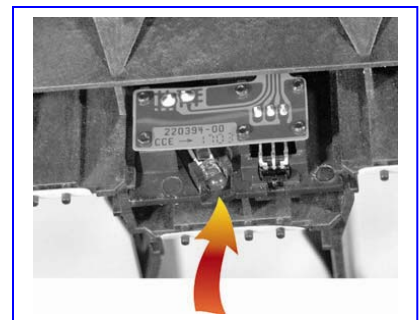
- 4. Carriage Paper Sensor** (lint-free/foam swab dampened with Windex solution or isopropyl alcohol). The carriage paper sensor recognizes the presence of media and measures media width and location. The sensor is located at the rear of the carriage assembly directly behind the magenta print head and is in line or above the cutter groove.

Cleaning Procedure:

- Remove the media from the platen.
- Perform "Access Cartridge" and remove the magenta print head.
- Apply Windex or isopropyl alcohol to a lint-free/foam swab and clean the paper sensor (located approximately 4 mm behind the magenta flex cable) by gently dabbing swab up toward sensor. Repeat procedure with a second swab.



NOTE: while the carriage paper sensor will not be visible, the photo below depicts the reverse angle view for assistance in cleaning.



- Replace the print head and follow the print head replacement procedures on page 2.
- Perform "Access Cartridge" to return the carriage to the home position.
- Reload the media.

C. Replace the following item **as required**:

1. **Cutter** (when smooth cuts are no longer observed when media is cut or if 'Internal Shutdown - Carriage Axis Failures' occur and are determined to be caused by the cutter assembly). Remove cutter assembly by gently pushing down on upper tab; pull assembly out and to the left to remove.



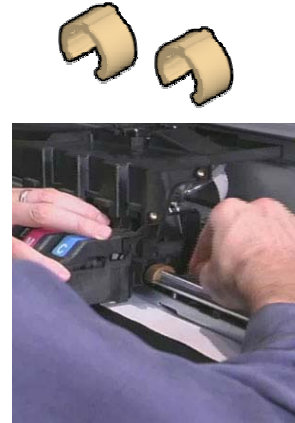
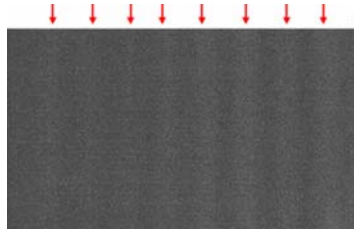
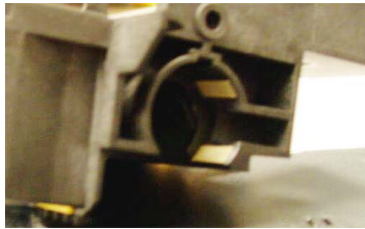
Preventive Maintenance

Periodic Maintenance is required at the following intervals; this type of service should only be performed by authorized service providers.

1. Replace carriage bushings every 1000 plot hours or when vertical banding or 'Internal Error - Carriage Axis' errors are observed *(bushings will typically last between 630 and 2200 plot hours depending on the print environment conditions, cleanliness, routine maintenance practices and type of actual printing performed).*

NOTE: it is possible for bushings to become dirty prior to 500 plot hours causing horizontal banding and/or shuddering of the carriage assembly during movement. Remove bushings from carriage (3 screws at each side) and clean lint/debris from bushings with dry lint-free towel.

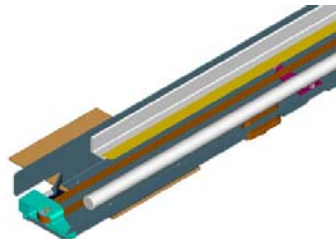
- Inspect and verify bushing shims (2 per bushing) are present or vertical banding may result due to carriage chatter.



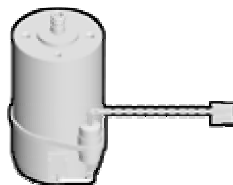
2. Replace the service station every 2000 plot hours *(station wipers may require frequent replacement depending on customer maintenance).*



3. Replace the idler, frame tensioner, spring and carriage belt every 2000 plot hours.



4. Replace the servo motor every 4000 plot hours.



Bulletin Reference List

Bulletin Type	Topic	Revision	Prerequisite Actions
KODAK 1200i Technical Bulletin 1	Printer Calibration Procedure	05/24/2005	- None
KODAK 1200i Technical Bulletin 2	Printer Repacking Instructions <i>- Video Procedure Available; partial</i>	05/24/2005	- None
KODAK 1200i Technical Bulletin 3	Encoder Strip & Encoder Sensor Cleaning <i>- Video Procedure Available</i>	05/24/2005	- TB12
KODAK 1200i Technical Bulletin 4	Print and Lamination Guidelines <i>- Video Procedure Available; partial</i>	06/23/2005	- TB1 and 8
KODAK 1200i Technical Bulletin 5	Tiling Guidelines <i>- Video Procedure Available; partial</i>	12/02/2005	- TB1, 5, and 6
KODAK 1200i Technical Bulletin 6	Printer Networking – Win 2000/XP	08/22/2005	- None
KODAK 1200i Technical Bulletin 7	Kodak Software Suite Locating Password Info	09/16/2005	- None
KODAK 1200i Technical Bulletin 8	Operator Cleaning & Maintenance <i>- also available in French and Spanish</i>	5/30/2006	- TB3 and 12
KODAK 1200i Technical Bulletin 9	Printer Error Message & Troubleshooting	3/30/2006	- TB3, 10 and 12
KODAK 1200i Technical Bulletin 10	Printer Grounding, ESD Control & Output Symptoms	12/06/2005	- TB 9
KODAK 1200i Technical Bulletin 11	Premature File Terminations	02/21/2006	- TB 10
KODAK 1200i Technical Bulletin 12	Routine & Preventive Maintenance	06/29/2006	- None

Error Message Codes

Errors are listed into four general groups:

- Cartridge Error Messages/Cartridge Failures
- Ink System (Refill Bottle/Intermediate Reservoir) Error Messages
- Dryer System Error Messages
- Miscellaneous Error Messages

NOTE: service related actions should only be performed by qualified personnel.

1. Cartridge Error Messages/Cartridge Failures:

Review the explanation for ink system/cartridge error messages and the appropriate recovery process – additional error message/code information is provided at the end of this document. Make sure you report the following information completely and accurately:

1. The initial screen error message.
2. The message displayed after pressing the MORE INFO key.
3. The message displayed after pressing the failed cartridge associated error key (e.g., F1 = Black, F2 = Cyan, F3, = Magenta, etc.).



Background Info - Error Classifications:

There are three basic types of cartridge errors:

1. ID-chip communication errors.
2. ID-chip data errors.
3. Internal cartridge errors (or insufficient ink delivery).

Type 1: ID-chip communication errors (Example: "Pen Error – Code 4").

This type of error is identified by a special code and it usually indicates there is a fault or bad connection with the ID-chip. The suggested course of action is to inspect the ID-chip and its connection to make sure the chip is making contact. Try reseating the cartridge - if no problems are detected, you should replace the cartridge and retest the system to verify valid ID-chip response with the new chip. **Note:** Additional information is available (but not necessary) if you press the associated error key (F1, F2, etc.) after navigating to the "Cart Info" display. If a communication problem cannot be resolved through cartridge replacement then check flex driver cable and trailing cable connectivity. Replace flex driver cable; replace trailing cable.

Type 2: ID-chip data errors (Example: "Pen Error – Invalid Ink Type!").

This type of error indicates the data recorded in the cartridge ID-chip is incompatible with the requirements specified in the printer setup. In this particular case, the cartridge ink type does not match the ink types of the other cartridges and, therefore, is incompatible. Correct this error by simply replacing the cartridge with one having the proper ink type.

Under INK STATUS MENU, at the CART INFO screen ensure ink type matches (i.e. Qi-D or Qi-Pig) across all cartridge stall positions. The printer will not print unless ink type is the same for each cartridge. Other examples of data type errors include the following:

1. "Pen Error – End of Jet Life!"... [use (ml) is over limit; typically 2800 ml]
2. "Pen Error – Invalid OEM ID!"... (chip OEM# doesn't match printer OEM)
3. "Pen Error – Ink Warranty Mismatch!"... (chip warranty data error)
4. "Pen Error – Invalid Chip ID"... (chip serial # is invalid)

As with the Type 1 errors, your best bet with all of these type 2 errors is to replace the cartridge with a qualified replacement.

Type 3: Internal cartridge errors.

These errors generally indicate there is a major flaw or breakdown within the cartridge or ink is not being supplied to the cartridge properly. The error recovery procedure is slightly different for each instance:

Example 1: <color> PEN ERROR – MAX INK TEMP. EXCEEDED!

MAX INK TEMP cartridge errors are a response to jet plate temperature exceeding a set maximum value. This is generally an indication that ink is not being fed to the jet plate area to keep it cool while printing.

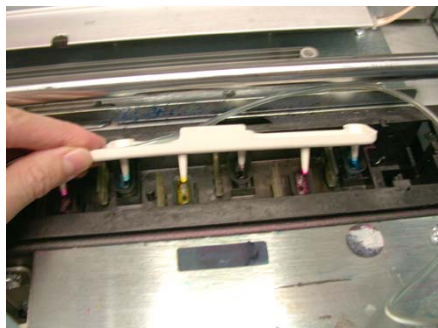
An insufficient factory prime (leaking cartridge – typically observed with a new cartridge that has leaked into the cartridge foil packaging) or an ink delivery system problem (blockage or leakage) can be the cause of observing this error. Typically the cartridge will need to be replaced, but the following actions/checks can be made to help revive the cartridge.

1. Ensure the ink delivery system is feeding ink to the cartridge (ink line should be full of ink from intermediate reservoirs to the carriage dampers – only 'very small' bubbles are permitted to be observed in ink line at any time). In the photo at right note the Light Magenta ink tubing line does not have any ink visible.



CAUTION: Do not repeatedly plug and up-plug a cartridge into the septum connector, this will cause the cartridge to eventually deprime. The ink line will typically need to be re-primed using either the standard Cartridge with tubing needle (and Plug bar) or via the **System Prime** feature (>2.1.0 firmware). For complete ink line depletion problems, Access Cartridges and install Cartridge with Tubing Assembly tool.

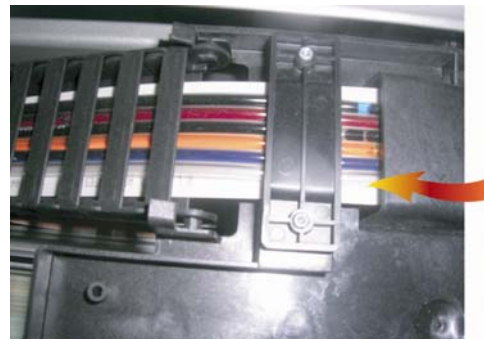
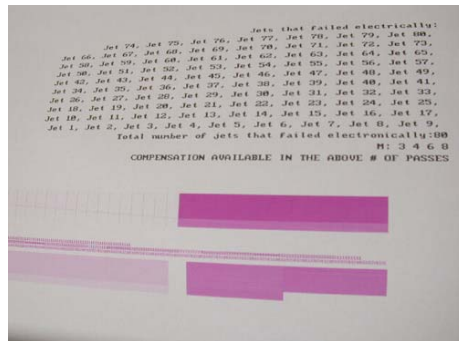
NOTE: the plug bar must be installed into service station to cap off service station to establish proper vacuum for the 'Pump On' feature.



2. For visible ink starvation (resembling large horizontal areas of ink dropout; no error condition displayed on control panel) first verify ink system flow and pressure are adequate (*no bubbles greater than 1 cm in size within ink tubing should be visible*) and check general cartridge health (*via color test & prime pattern*). Perform '**System Prime**' (must have firmware version 2.1.0 loaded and the new service station must be installed), select:

UTILITY MENU – PRIME MENU – SERVICE STATION MENU – SYSTEM

PRIME. Activation of the System Prime will fully recharge the entire ink system in ~60 seconds (*also assumes factory set service station height is correct and the service station shim is installed properly*) and helps correct 'MAX INK TEMP errors' and general cartridge ink depletion problems 90% of the time.



3. Replace cartridge if 'intermittent' ink dropout occurs (no error displayed – see sample image problems below); the cartridge has an internal jetting problem and must be replaced. The customer will need to determine which color is dropping out by inspecting the bands along bottom edge of print.

NOTE: the 'MAX INK TEMP error' message may not be displayed when the ink dropout occurs in the examples below; this symptom has been observed with cartridges greater than 700 ml ink throughput).



4. Activate an **All Color Test** (UTILITY MENU – SERVICE MENU – DIAGNOSTICS – COLOR TEST MENU – ALL COLOR TEST) in the default 6-pass printer mode to fire all cartridges and check overall cartridge performance and ink flow to cartridges.

5. As a preventive measure against future 'MAX INK TEMP' errors (and even help recover a cartridge which has already suffered a MAX INK TEMP error) try using the suggested **System Prime** procedure (refer to step 2 above).

6. If cartridge recovery is not possible then proceed to replace the cartridge (cartridge may have an internal air leak which is causing the ink pressure integrity problem; multiple cartridge failures typically indicate a septum failure).

The alarm message will be cleared when you send a new print job or power cycle the printer. The steps involved to clear the alarm without a power cycle are:

- 1 - cancel the print job at the host
- 2 - navigate to the keypad main menu and press RESET
- 3 - navigate to the alarm display by pressing ALARM
- 4 - press the MORE INFO key
- 5 - determine the offending cartridge
- 6 - access carriage and replace offending cartridge
- 7 - access carriage back to home position
- 8 - send a new print job to clear the alarm (a prime printing test or calibration plot will clear the alarm)

7. For a more advanced analysis (i.e. for technicians) of the 'MAX INK TEMP' error please refer to pages 21–24.

Example 2: <color> PEN ERROR – OVERCURRENT CARTRIDGE SHUTDOWN!

A cartridge OVERCURRENT error indicates the detection of an electrical short internal to the cartridge – **the cartridge must be replaced**. This error is often the result of not correcting a MAX INK TEMP. EXCEEDED error as described in Example 1 above.

All OVERCURRENT cartridge errors require replacement of the cartridge and recycling of the printer power. The steps involved to restart the printer and replace the cartridge are:

- 1 - cancel the print job at the host
- 2 - press the MORE INFO key on the keypad display to show which cartridge is defective
- 3 - turn the printer power OFF
- 4 - replace the defective cartridge
- 5 - turn the printer power ON

For the following error message (examples):

Internal error shutdown

Image Manager

VFIRE VALUE=1 (or 5)

RETRY=3 (or 0)

If newer firmware is loaded (i.e. >2.1.0) and the error message remains, then the **carriage board** is likely faulty. Replace carriage board to correct symptom.

Example 3: <color> Pen Error – Invalid Pen ID!

The message indicates that the ID of the cartridge itself is not correct or is not being read. This could be a contact problem between the cartridge ID chip contacts and the carriage flex or it could be that the cartridge ID is not the correct type (programming problem), misaligned or even missing completely from cartridge. You can verify this condition by going to the CART INFO screen (Utility Menu – Service Menu – Ink Status Menu – Cart Info) and you will see something similar to:

K: BLACK
XXXmL

If you then press the F1 key on the display you should see:

604 K: BLACK QiD TSR: XXX
MFGI X-X-XXX **OEM: 1 ID: 6**
XXXXXXXXXXXXXX
TSR FOUND +

Identification Chip
(ID Chip)



ID: 0 is typically an indication that the cartridge ID is wrong. This field will equal 6 (will be 0 until you have printed at least 0.10mL of ink through the cartridge). This is assuming you have printed and the error has occurred. TSR (Target Sensing Resistor) values are typically between 450 and 540; displayed message should also indicate 'TSR FOUND +'. For TSR errors try reseating the cartridge or replace the cartridge. If one or all TSR cartridge levels are at error condition (out of range) then load firmware version 2.1.0 (or higher) to help correct. This will place the identified cartridge (s) in open loop mode and may affect specific color output slightly however. For persistent TSR errors check connectivity between flex driver cable to carriage PWA and/or replace the cartridge.

NOTE: the OEM field is read from the ID chip. 1 = Kodak 1200i, 4 = POS, 5 = special, 6 = Xerox 8142/8160. The MB (i.e. MB:01) version under the ABOUT menu should 'always' match the cartridges and bottles.

The alarm message will be cleared when you send a new print job or power cycle the printer. The steps involved to clear the alarm without a power cycle are:

- 1 - cancel the print job at the host
- 2 - navigate to the keypad main menu and press RESET
- 3 - navigate to the alarm display by pressing ALARM
- 4 - press the MORE INFO key
- 5 - determine the problem cartridge
- 6 - access carriage and replace the problem cartridge
- 7 - access carriage back to home position
- 8 - send a new print job to clear the alarm (a prime printing test or calibration plot will clear the alarm)

APC UNAVAILABLE, ABORT JOB?

APC stands for Auto Pass Correction. There are three possible selections from the menu for PASS CORRECTION: AUTO, PAUSE, and OFF. Default is AUTO. If you receive this error with APC set to AUTO this indicates that the printer is not able to compensate in any print mode. Your only option is to abort the current print job or continue. You can abort the job, try reseating the cartridge, print a PRIME pattern to help you understand the extent of the electrically defective jets. The prime pattern will print a message at the end of the pattern indicating which modes can be compensated, if any. If you receive this error with APC set to PAUSE this indicates that the printer is able to compensate at a higher pass mode but is needing your input to proceed.

NOTE: APC errors will not be receive if PASS CORRECTION is set to OFF. Also, prior to firmware version 2.0.7 there is no automatic APC correction above the 8 print-pass mode (i.e. for 12 and 16 pass). It is suggested to load firmware 2.1.0 or higher for this condition.

This is typically a cartridge failure. Items 1- 7 below can be verified prior to cartridge replacement to help isolate problem. If problem does not clear following cartridge replacement perform items d. through f. below:

1. Thoroughly clean flex driver cable surfaces, rear electrical surfaces of cartridge and jet plate.

2. Ensure cartridge is completely seated and firmly pressed against the flex driver cable surface. Ensure cartridge door and door pusher is properly engaging and locking cartridge in place.
3. Cycle printer power to verify fault clears.
4. Replace cartridge.
5. Reseat appropriate flex driver cable and trailing cable (both ends).
6. Replace appropriate flex driver cable.
7. Replace trailing cable.

JETS BAD: ALLOW 3-PASS APC? (N/A)

JETS BAD: ALLOW 4-PASS APC?

JETS BAD: ALLOW 6-PASS APC?

JETS BAD: ALLOW 8-PASS APC?

If you receive any of these errors (APC set to PAUSE) this indicates that the printer is able to compensate at a higher pass mode. Select YES to give permission to proceed to this new higher pass mode or select NO to stay at the current pass mode. One line of the display will show the cartridge colors with the problem cartridge(s) flashing.

PEN ERROR - JOB PAUSED!

This pen alarm provides the top-level error status only. Additional information about the specific error is available if the operator presses the “More Info” button. The following is a list of all possible (color-generic) “More Info” specific error messages that follow “Pen Error”:

If the Pen Error is related to an ID-chip data validation error, one the following messages will be displayed:

[<color>] Pen Error – Ink Record Mismatch!

Translation: The system was unable to update pen ID-chip ink count.

[<color>] Pen Error – Invalid Pen ID!

Translation: The pen Cartridge Body ID is invalid. Ensure the cartridge is properly mating to the flex driver cable. Clean flex driver cable and retest.

[<color>] Pen Error – End of Jet Life!

Translation: The pen ink count is greater than maximum (2800ml).

[<color>] Pen Error (#10) – Invalid Ink Type!

Translation: The pen ink type does not match the other installed pen ink types (i.e. Qi-Dye versus Qi Pigment). Verify OEM configuration by checking Cartridge. Could also be an improperly programmed ID chip.

[<color>] Pen Error – TSR Failure!

Translation: The Cartridge Body TSR value is out of range. If this error is occurring for all cartridges then the firmware (i.e. version 2.0.7) may be detecting a faulty carriage board voltage level. It is suggested to load firmware version 2.1.0 (or higher) bypass the error and resume print operations (the specific cartridge will run in open loop thermal control and may affect output color however). Average TSR values are normally 460-490 (480 to 510 is optimum),

system wide acceptable range is between 450 and 540 (go to Cartridge Status – press outside keys to view individual cartridge status/information, refer to bottom of page 8).

[<color>] Pen Error – Invalid OEM ID!

Translation: The pen OEM ID does not match the main-board OEM ID. For ENCAD cartridge all OEM values should be 1. Replace cartridge under warranty if one cartridge is different than the rest.

[<color>] Pen Error – Ink Warranty Mismatch!

Translation: The system was unable to update pen warranty status (ID-chip).

[<color>] Pen Error – Invalid Chip ID!

Translation: The pen ID chip serial number is invalid. Reseat or replace cartridge under warranty.

For the above error messages replace the cartridge with a qualified replacement. If cartridge replacement does not solve the issue then check flex driver cable and trailing cable connectivity. Replace appropriate flex driver cable. Replace trailing cable. Replace carriage board (defective jack connector).

If the Pen Error is related to an ID-chip communication failure, the error message format changes to the following:

[<color>] Pen Error – Code < # > (# ranges from 2 to 7)

Where:

2 = “<color> Pen Error - Pri CRC Failed!”

3 = “<color> Pen Error - Sec CRC Failed!”

4 = “<color> Pen Error - No Response!”

5 = “<color> Pen Error - Write Protected!”

6 = “<color> Pen Error - Copy Failed!”

7 = “<color> Pen Error - MAC Mismatch!”

Translation: The ID-chip or its connection is faulty.

These communication error messages are displayed in the “Cart Info” secondary menu. This display menu is made visible by pressing the associated cartridge color button (F1-F6).

```
604 K: BLACK QiD TSR: XXX
MFGI X-X-XXX OEM: 1 ID: 6
XXXXXXXXXXXXX
TSR FOUND +
```

NOTE: the TSR range is normally between 450 and 540; cartridges operate the ‘best’ between TSR levels between 480 and 510 however.

2. Ink System (Refill Bottle/Intermediate Reservoir) Error Messages:

BOTTLE ERROR - JOB PAUSED!

This bottle alarm provides the top-level error status only. Additional information about the specific error is available if the operator presses the “More Info” button. The following is a list of all possible (color-generic) “More Info” specific error messages that follow “Bottle Error”:



If the Bottle Error is related to an ID-chip data validation error, one of the following messages will be displayed:

[<color>] BOTTLE ERROR – INK RECORD MISMATCH!

Translation: The system was unable to update bottle ID-chip ink count.

[<color>] BOTTLE ERROR – INK LIMIT REACHED!

Translation: The bottle ink count is greater than maximum (700ml).

[<color>] BOTTLE ERROR – INVALID INK TYPE!

Translation: The bottle ink type does not match other installed bottle ink types.

[<color>] BOTTLE ERROR – INVALID OEM ID!

Translation: The bottle OEM ID does not match the main-board OEM ID.

[<color>] INK BOTTLE ERROR = CODE 7!

Translation: This message is an indication that the ID chip affixed to the bottle is not working properly; incorrect programming, etc.

[<color>] BOTTLE ERROR: INVALID (CHIP) ID

Translation: This message is an indication the chip is the incorrect OEM version [i.e. Encad (1) version vs. POS (4) version]. You can verify this condition by going to the BOTTLE INFO screen (Utility Menu – Service Menu – Ink Status Menu – Bottle Info) and, in normal operation you will typically observe:

An error condition will be displayed as:

K: ERROR*

NOTE: these error notifications typically occur during a running print job. In these cases, the operator has 30 seconds to rectify the error before the job pauses and an alternate version of this alarm appears. Some other rare messages include:

If the Bottle Error is related to an ID-chip communication failure, the error message format changes to the following (**BOTTLE ERROR - JOB PAUSED!**):

[<color>] Bottle Error – Code < # > (# ranges from 2 to 7)

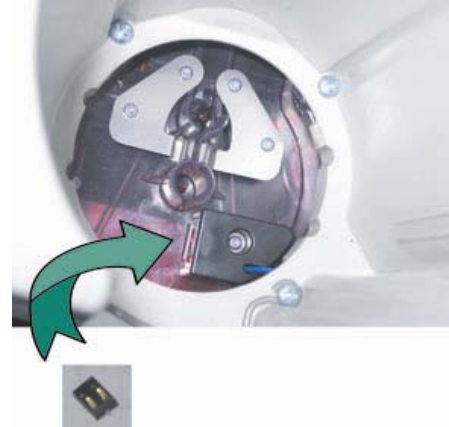
Where:

- 2 = <color> Bottle Error – Pri CRC Failed!**
- 3 = <color> Bottle Error – Sec CRC Failed!**
- 4 = <color> Bottle Error – No Response!**
- 5 = <color> Bottle Error – Write Protected!**
- 6 = <color> Bottle Error – Copy Failed!**
- 7 = <color> Bottle Error – MAC Mismatch!**

Translation: The ID-chip or its connection is faulty (i.e. **accidentally broken** – see photo at right).

These communication error messages are displayed in the “Bottle Info” secondary menu. This display menu is made visible by pressing the associated bottle color button (F1-F6).

INK K: BLACK QiD
MFGI X-X-XXX OEM: 1
XXXXXXXXXXXXX



Bottle ID-chip errors are virtually identical when compared to the cartridge errors Type 1 and 2 explained above. There is no Type 3 classification for bottle ID-chips. In most cases, the recommended error recovery procedure is to replace the bottle identified on the display. This may be done prior to AND during a print job. If an error occurs during a print job, the user has 30 seconds to find a replacement bottle and swap out the identified stall before the print job is automatically paused.

NOTE: if an ink bottle is missing, a bottle error will occur, but if a bottle is missing, bottle chip is missing or bottle chip is not making contact with the ID housing (within intermediate reservoir) then an alarm condition will typically not be displayed as an initial screen message on the control panel display. To access more information about bottle errors, press the MORE INFO key where the error will be specified. Below is a possible error message:

An error condition will be displayed as:

K: ERROR*

Another unique error message is a programming problem with the ID chip and therefore the bottle/chip will need to be replaced in the following cases:

[<color>] MAC – MISMATCH ERROR

1. For all bottle errors except for the ‘mismatch error’ check ID housing position (vertical and horizontal alignment). The housing



screw may need to be loosened (T7 star-head screw) to readjust the housing position slightly to enable better contact.

2. Verify proper chip placement on bottle – relocate chip as necessary. While in the BOTTLE INFO screen ensure all ink type matches (i.e. QiD, QxD or Qi-Pig). The printer will not print unless ink type is the same for all 6 bottles.
3. Replace the refill bottle with a new one.

<color>: WARNING - INK RESERVOIR LOW!

Intermediate reservoir (fed by the ink refill bottle) has reached the 'low' limit (<30 ml). Printing will only continue for only an additional 10 ml (typically for 10 – 25 minutes depending on print pass mode used).

1. This is a normal operational error and usually occurs when the refill bottle runs out of ink and ink is now being depleted from the intermediate reservoir (when ink level falls below 30 ml).
2. If current refill bottle contains ink then reseal the refill bottle to ensure ink is being supplied to ink system. Remove and replace ink refill bottle if necessary.
3. This error will normally occur, for all 6 colors, if the refill bottles have not been installed into a new machine during the initial installation and printer power is applied. If ink bottles have been loaded and the ink level within the intermediate reservoir appears to be more than 60% full (above the reservoirs 30 ml level) this error should not be displayed. The intermediate reservoir has a 52 ml capacity.



[<color>] JOB PAUSED – INK RESERVOIR EMPTY!

Message normally appears after 10 ml ink buffer has been used (refill bottle was not replaced in time); occurs between 10 and 30 minutes following the INK RESERVOIR LOW error message.

NOTE: This is typically a normal operational error and usually occurs when the refill bottle level falls below 20 ml (error message *WARNING - INK RESERVOIR LOW!* has already been displayed and an additional 10 ml of ink has been used).

1. It is possible to have a fault within the printer hardware caused by improper electrical contact between main board and the reservoir data board, a defective reservoir data board, or a defective connector or wiring harness. Verify connectivity, select **Utility Menu – Service Menu – Diagnostics Menu – Accessory Menu – Ink Reservoir Test**. If bottles are installed and intermediate reservoir 'appear' to be about 60% full, then all logic levels should be a one (1). If a zero (0) is displayed and intermediate reservoir is full of ink, then either the sensor

cable connection (at data board or main board) is incorrectly seated or the reservoir data board may be damaged thus requiring field replacement.

NOTE: only authorized service providers should attempt to perform steps 2., 3., 4., or 5. Contact technical support for assistance.

2. Check all plugs/connections; swap two intermediate reservoir plug connectors to check wiring harness connectivity.

3. Swap the suspect reservoir data board with either the black or cyan reservoir data boards to verify functionality. Replace data board with a new one.

NOTE: only replace the reservoir data board (see picture) prior to replacing any other assembly.

4. Replace ink reservoir wiring harness if a wiring harness plug is suspected as defective.

5. Check main board by replacing with spare.



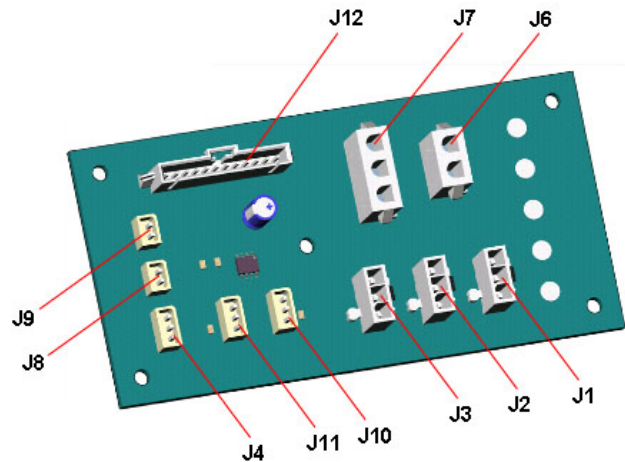
3. Dryer System Error Messages:

DRYER SENSOR FAULT!

1. Error activates when one of the two dryer sensors is below a specific value; indicates an open circuit.
2. Error activates when the difference between the sensors is too great; the lower sensor value is at fault (the lower sensor value will read below current room temperature value).
3. Under Diagnostics Menu > Accessory Menu > Dryer Status, the status of both sensors is displayed. To determine which sensor has the problem, disconnect one sensor connection (J8 or J9 on dryer board).



4. The error will be displayed under 'Alarms Menu' until it is isolated or fixed. The '!' icon will also be displayed to show the alarm condition is active.
5. Error condition will continue to be reported when dryer is switched to 'Off' or 'Fans Only'.
6. 'Dryer Sensor Fault' error will not be displayed if both sensors are faulty. If both sensors are faulty the error '**Dryer System Fault - Dryer Off**' will be displayed (see **DRYER SYSTEM FAULT - DRYER OFF** below).



Action: Contact technical support.

DRYER SYSTEM FAULT - DRYER OFF

1. Error condition activates when both dryer sensors are defective or have faulty connections. Error will still be reported when dryer is switched to 'Off' or 'Fans Only'. The dryer will then be turned off automatically. Error will repeat (and sound a beep again) if the user attempts to turn on the dryer.
2. Error condition occurs when the dryer has no response. This means when the dryer is turned on (or when changing set points) or if the temperature does not rise to a specific value within a certain amount of time. In either case an error is generated when the sensors are not responding or if the dryer output is not responding.

3. Check a voltage switch setting. **CAUTION:** Remove power from printer. Verify the proper alternating current voltage setting is fully engaged [either to the left (115 volts) or to the right (230 volts)] as per the regional power provided. Power off printer and cycle voltage switch to verify position.



NOTE: If switched to 230V when only using 115V, you will typically get the 'DRYER SYSTEM FAULT - DRYER OFF' error message, but sometimes not until after you begin the print. (It can heat a nose that is not losing energy to a print, but cannot maintain set-point once water starts evaporating out of the ink.) If the situation is reversed, switched to 115V when using 230V, many times the dryer will operate normally but may give intermittent 'OverTemp' errors or 'pop' the circuit breaker (adjacent to switch).

NOTE: Since the dryer is turned off automatically the error condition may disappear as soon as the alarm is displayed.

Action: Contact technical support.

DRYER WARMING-UP. PRINT ANYWAY?

1. Error condition occurs (and sounds a beep) when a print job is processed and the current nose/dryer temperature is below a certain value of target temperature.
2. Error condition will inhibit all printing. Select "Ok" to start print processing; error message warning will be ignored. Select "Cancel" to pause print processing; when the nose heaters come up to temperature printing will start automatically (typically takes 2-8 minutes depending on the heat setting entered).

Action: None – Operation is normal

DRYER TEMP TOO HIGH - DRYER OFF

1. Error condition activates if either sensor reads above 72 °C (surface temperature is 70 °C). Dryer will be turned off automatically.
2. Error will repeat (and sound a beep again) if the user attempts to turn on the dryer (until sensor temperature alarm level drops below 72 °C)

Action: Contact technical support.

4. Miscellaneous Error Messages:

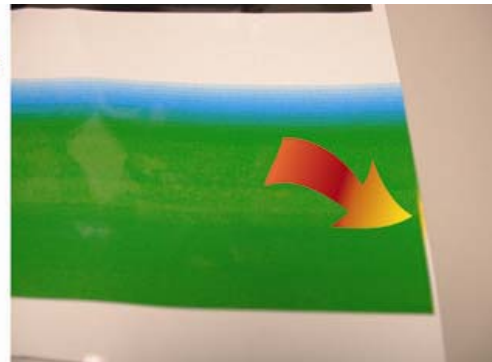
INTERNAL SHUTDOWN: CARRIAGE AXIS FAILURE!

1. The servo motor control system has encountered a dirty slide shaft, dirty or worn carriage bushings or dirty/damaged encoder strip/sensor. Refer to routine maintenance in on-line training guide; thoroughly clean the printer (corrects error >95% of the time).

NOTE: Carriage bushings will normally wear out between 700 and 1400 plot hours depending on the environment and ink type used; replace bushings at 1000 hours to prevent premature failures. Technician should check for unseated carriage bushing shims (two .004" thick shims are located next to each bushing) or for excessively worn carriage bushings. Preventive maintenance is normally required every 1000 plot hours to replace normal wear and tear parts. Note the current location of the carriage and recycle printer power to see if problem occurs in the same location.



2. A dirty or defective encoder strip or encoder sensor may cause a CAE or the following print symptoms (*see photos – notice the large bands, image skewing and data shift at right side*) to occur prior the CARRIAGE AXIS FAILURE. The problem may also be caused by an unseated memory module or improper grounding leading to electrostatic discharge (ESD) interference. Clean encoder strip/sensor (**refer to Technical Bulletin 3**), reseat the memory module at Main PWA (must be installed!!), and verify printer is properly grounded and protected from media electrostatic discharges. If problem persists after performing TB3 then contact technical support.

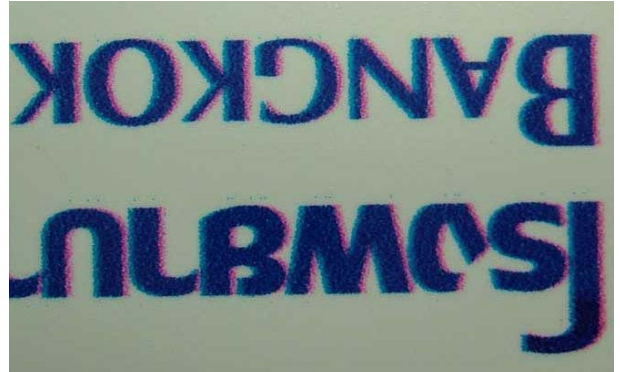
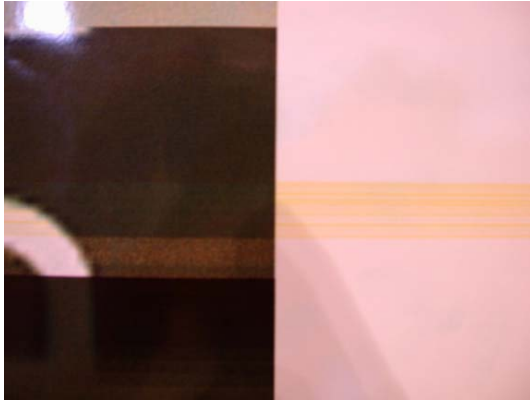


3. A defective trailing cable may cause a CAE or the appearance of small vertical gaps/spaces in the image – see picture below. Check trailing cable's insulation point where the ink delivery chain attaches to the chain guard.



4. Electrostatic discharges from media or personnel can cause data interference, typically the data will be observed shifting away from the edge of print or image may appear to have an ink overspray problem. Contact technical support for suggestions to overcome these symptoms (refer to Technical Bulletin 10). A Carriage Axis Error may result if interference with image signals is too severe or if incoming power is too low (i.e. less than 100 volts AC).

NOTE: These symptoms are different from No. 2 above.



5. If a CAE occurs and ink is observed around the service station area (ink is spitting up through the service station and onto the carriage assembly) at right side of printer the auto clean unit may be defective. Contact technical support.



NOTE: The encoder strip, encoder sensor and carriage paper sensor should be cleaned or errors may continue to occur. To clean the encoder strip/sensor refer to Technical Bulletin 3. To clean the paper sensor remove power and the service station, gently blot the paper sensor (located directly behind the magenta stall position flex driver cable approximately 5-7 mm). Refer to Routine Maintenance.



JOB PAUSE - OUT OF PAPER!

The system detected the end of media. The current job should be cleared and media reloaded. **'Feeder Stop'** is the default mode and will pause printing when the printer cannot unwind enough media to block the leg sensor. The media feed (upper) sensor is used for the Roll and Takeup supply modes, the takeup (lower) sensor performs the operation when in the Roll 2 mode. If 'Feeder Stop' is activated and a problem persists then check for proper bracket alignment, plug connectivity and sensor operation using the diagnostic 'Legs Test'. Replace motor or sensor as necessary.



PAPER NOT LOADED!

During a media load the system could not find paper. Cycle power to the printer. The user should insert or reposition the media and 'Load Media' again. Clean carriage paper sensor, refer to Internal Shutdown: Carriage Axis Error above, item number 5. Thoroughly clean platen cutter groove and ensure no scratches or knife cut marks are visible at base of cutter groove.

JOB PAUSE - E.O.M. DETECTED!

This is user selectable feature. 'End of Media' options are 'Feeder Stop' or 'Normal'. 'Feeder Stop' is the default and will pause printing when the printer cannot unwind enough media to block the leg sensor. This feature is very handy while printing unattended (especially if the end of media is securely taped to the roll). The user can press 'Pause' to continue printing but the alarm will remain until new roll of media is loaded.

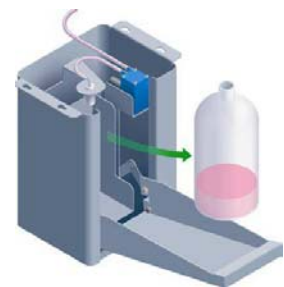
CAUTION: When set to 'Normal' this stop feature is disabled and the operator runs the risk of running out of media during a large print job, this can ultimately result in ink being printed across a bare platen surface. Furthermore, this could lead to severe ink leaks into the platen and dryer component areas leading to possible component damage. Therefore the 'Normal' mode is not a suggested for print operations due to the dangers involved.

EMPTY WASTE BOTTLE NOW!

Typically the waste bottle should be removed and emptied or the access door is open. The spring-loaded floor of the auto clean unit controls this sensor activation.

1. Ensure auto clean unit door spring is working correctly and is closed. Check both wiring connections at base of printer (auto clean unit screws will need to be loosened to allow for auto cleaning unit lowering. **NOTE:** remove waste bottle first! Do not drop unit or damage to wiring may result).

2. Bottle full sensor may be defective; contact technical support for assistance.



WASTE BOTTLE MISSING!

1. Insert or reinstall waste bottle. The actuator arm located at the inside rear of the auto clean unit controls the sensor activation. If the error persists then contact technical support.
2. Bottle present sensor may be defective; contact technical support for assistance.

**MAINBOARD ID ERROR!**

This alarm provides the top-level MBID error status only. Additional information about the specific error is available if the operator presses the “More Info” button. The following is a list of all possible “More Info” specific error messages that follow “Mainboard ID Error”:

MBID Error – Code < # > (# ranges from 0 to 7)

Where:

- 0 = “MBID Error - Record Mismatch!”**
- 2 = “MBID Error - Pri CRC Failed!”**
- 3 = “MBID Error - Sec CRC Failed!”**
- 4 = “MBID Error - No Response!”**
- 5 = “MBID Error - Write Protected!”**
- 6 = “MBID Error - Copy Failed!”**
- 7 = “MBID Error - MAC Mismatch!”**

Translation: The ID-chip or its connection is faulty.

There is one more unique MBID error that can occur. This error will be displayed only if there is an invalid OEM byte sent to the main-board chip at initialization time. The OEM field is read from the ID chip. 1 = Kodak 1200i, 4 = POS, 5 = Special, 6 = Xerox 8142/8160.

“MBID ERROR - INVALID OEM ID!”

In this instance, the manufacturer is required to change the OEM designation to an approved OEM value before attempting another MBID Initialization process. The Main PWA must be returned to the manufacturer as the software/hardware components cannot be released outside of manufacturing.

NOTE: For printing to occur (be authorized) the main board OEM number must also match the cartridge OEM value and the refill bottle OEM value. For example, the KODAK printer version (**UTILITY MENU – SERVICE MENU – ABOUT**) must have a main board value of 1 (i.e. MB: 90_01), the six cartridges (**UTILITY MENU – SERVICE MENU – CART INFO**) must all be a value of 1, and the six refill bottles must all be a value of 1. As well, the cartridges and bottles must also have matching ink type (i.e. QiD) If a mismatch occurs printing will not be allowed. Replace cartridge or ink bottle if a mismatch occurs.

WAITING FOR CARTRIDGE ACCESS...

Reminder: A print job is ready but the system is waiting for the user to give up control of the carriage. The user should press 'Access Cartridge' to return the carriage and to enable printing to begin.

This error may easily occur following routine cleaning where cartridges were accessed or if the operator decides to activate a 'Cut' following an 'Access Cartridge' and the operator forgets to return carriage to home position.

WARNING: ADJUST REAR PAPER GUIDES

Friendly Reminder: Each time the paper is loaded this message is presented to the user. The user should inspect the paper path and press 'Ok' to clear this warning. The front paper guides should be verified as well.

NOTE: Always ensure the rear media edge guides are spaced at least 1-2 mm away from the media edges following a media load; the media should not be in contact with the guide or media drag may occur and possibly cause left or right side banding. Refer to Technical Bulletin 1 for complete media load instructions.



CARRIAGE FPGA ERROR

Error: Normally this message indicates the carriage trailing cable or board is unplugged. There is no method of clearing this error the printer must be power cycled.

PEN ERROR!

This error message is provided to clarify a retained "Pen Error – Job Paused!" error status after a job is "Reset" by the user and is no longer paused. Refer to pages 1-8 above.

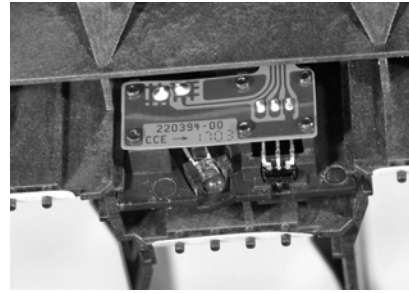
BOTTLE ERROR!

This error message is provided to clarify a retained "Bottle Error – Job Paused!" error status after a job is "Reset" by the user and is no longer paused. Refer to pages 9-12 above.

CARRIAGE PAPER SENSOR IS UNSTABLE

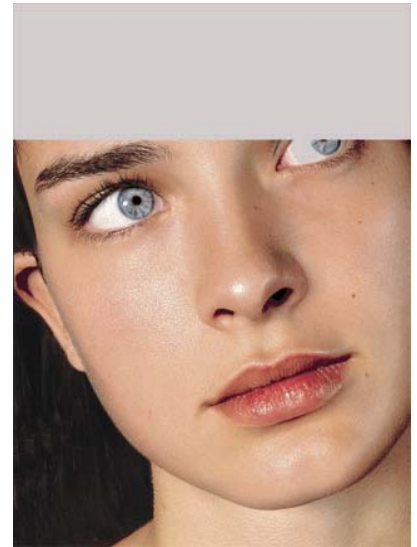
This usually indicates the carriage paper sensor is defective (or unplugged). Reseat and or replace the carriage paper sensor.

NOTE: only authorized service providers should perform this repair action.



Premature file terminations (no error message on control panel display)

1. Premature file terminations (consistently occur) are most commonly caused by Windows XP firewall software running in a medium to high security mode setting *[has been found to hinder Ethernet data transmission and sometimes prematurely terminates jobs (i.e. 60%complete) on some systems]*. To disable the firewall software, select **Start - Settings - Control Panel Administrative Tools – Services - Firewall** (i.e. Norton Anti-Virus-System Works/Symantec Anti-Virus/Internet Firewall/Integrity Flex) and deactivate (select stop, off, or lower security level to 0). If a firewall is required then load a different operating system (i.e. Win 2000) as a work around solution.
2. Incoming power source fluctuations can cause premature file termination (i.e. typically signified by flickering of overhead lighting several minutes prior to failure).
3. Insufficient RIP workstation memory can also cause premature image file termination; ensure minimum of 1GB RAM is present at primary RIP workstation.

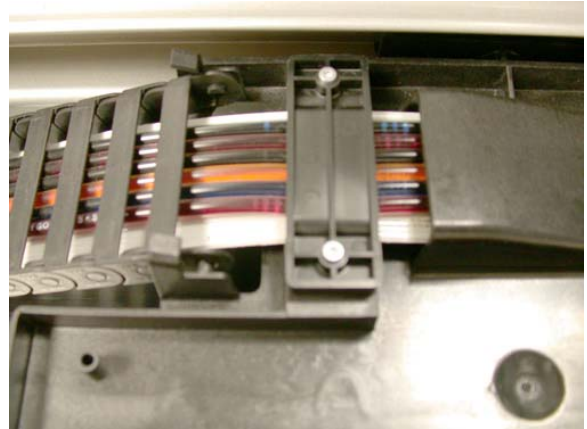


MAX INK TEMP. – Advanced Analysis

For printers which exhibit large air gaps or bubbles in the ink delivery lines refer to A. below. For printers which experience an unusually high level or occurrence of cartridge 'Max Ink Temp' errors refer to B. below.

A.) Bubbles Observed in Ink Delivery Lines

Only small air bubbles (< 1 cm in diameter) are permitted to be observed in ink delivery ink lines at or near the carriage assembly. Refer to adjacent picture of a typical printer ink delivery system; any single bubble longer than 1 cm in length may signify a problem within the ink delivery system connectivity. To correct a possible problem from occurring perform each of the following actions and retest printer by sending three high saturation images to printer in a row (i.e. internal color test in 3 pass print mode):



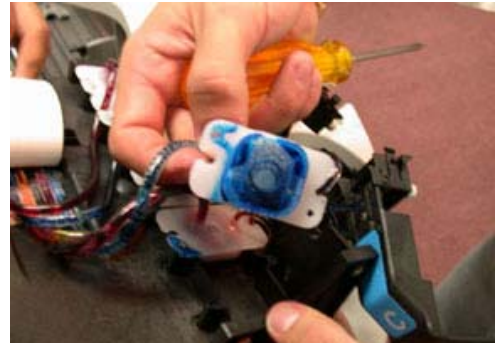
1.) Re-prime ink line using cartridge with tube assembly/plug bar. Note: only install the plug bar for new service station types (yellow label at front corner). Install ink cartridges and ensure all six (6) ink lines are completely filled with ink and that no air gaps are observed in ink lines.



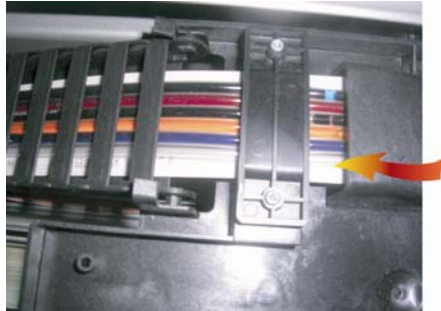
2.) Replace ink cartridge with a new cartridge. Existing cartridge may possibly have an internal leak or a leak at the jet plate allowing air to penetrate internal housing.



3.) For complete ink starvation, as observed in ink delivery line (note Light Magenta ink is missing from ink line in photo below) check cartridge, ink line connectivity and respective damper assembly. The damper assembly may have a possible leak (due to ink contamination, improper service/repair tool usage, printer abuse/shock, or damage). Re-prime ink line following damper replacement.



Defective Damper



**Light Magenta Ink Line
Deprimed Condition**

4.) If ink starvation continues to occur replace the septum assembly. This assembly may have a possible leak due to damage. Re-prime ink line following septum replacement.



Defective Septum

B.) Max Ink Temp. Errors

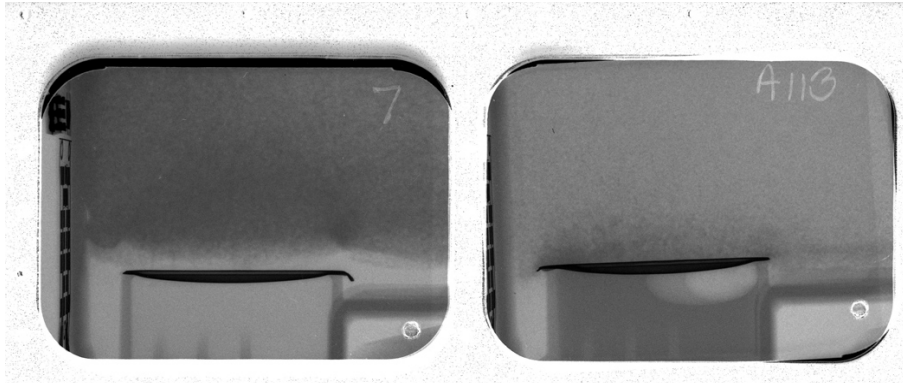
MAX INK TEMP cartridge errors are a response to jet plate temperature exceeding a set maximum value. This is generally an indication that ink is not being fed to the jet plate area to keep it cool while printing; the cartridge is suffering an overheat condition.

NOTE 1: If a customer is running firmware <1.31 this error will normally occur in the 2-pass print mode when printing solid fields. Upgrade firmware version to correct (i.e. >2.1.0).

An insufficient factory prime (leaking cartridge – typically observed with a new cartridge that has leaked into the cartridge foil packaging), an ink delivery system problem (blockage or leakage of an ink delivery line or ink bottle/connection,



or intermediate reservoir), or internal foam separation (see x-ray pictures below; upside down views) internal to the cartridge can all contribute to this error.



The x-ray at left shows foam separation from the internal chimney (inside the cartridge), leading to lack of capillary ink flow to the chimney into cartridge chamber. This failure can be caused by cartridge shock (dropping cartridge, etc.) – and typically leads to a ‘Max Ink Temp.’ error.

The x-ray at right shows a normal cartridge; illustrating proper foam contact with the chimney. Note: the small bubbles observed in the chimney do not interfere with cartridge operation.

Typically the cartridge will need to be replaced once an error occurs in ~80% of the cases, but the following actions/checks can be made to help revive the cartridge.

1.) Ensure the ink delivery system is feeding ink to the cartridge (ink line should be full of ink from intermediate reservoirs to the carriage – only ‘very small’ bubbles (< 1 cm diameter) are permitted to be observed in ink line at any time. Refer to photo in A. above). In the photo at right note the Light Magenta ink tubing line does not have any ink visible. This type of failure indicates a massive air leak is present at either the cartridge, septum, damper, or ink line connection points. Refer to *Ink Delivery System* above (page 21) to help resolve.

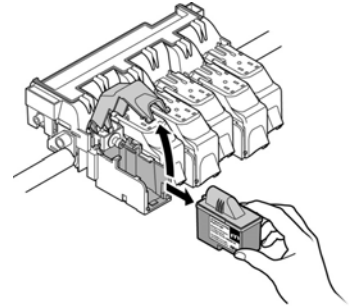


NOTE 2: Do not repeatedly plug and unplug a cartridge into the septum connector, this will eventually cause the cartridge to deprime. The ink line will typically need to be re-primed using Cartridge with tubing needle (and Plug bar if the new Service Station modification has been installed – refer to Service Bulletin 10).

2) If the ink delivery system appears to be normal attempt to recover the cartridge by using the menu function **SYSTEM PRIME** in the service station menu (**Utility Menu – Prime Menu – Service Station Menu – System Prime***).

*requires firmware version 2.1.0 (or greater) to work properly.

3) Check ink line pressure and verify no air gaps are visible in ink delivery tubing with ink chain. Use cartridge with tubing assembly supplied with printer to re-establish ink line levels and ink pressure as necessary.



4) If cartridge recovery is not possible then proceed to replace the cartridge (cartridge may have an internal air leak or have ink loss which is causing the ink pressure integrity problem).

NOTE: The **MAX INK TEMP** error message will normally be cleared when you send a new print job or power cycle the printer. The steps involved to clear the alarm without a power cycle are:

- 1 - cancel the print job at the host
- 2 - navigate to the keypad main menu and press RESET
- 3 - navigate to the alarm display by pressing ALARM
- 4 - press the MORE INFO key
- 5 - determine the offending cartridge
- 6 - access carriage and replace offending cartridge
- 7 - access carriage back to home position
- 8 - send a new print job to clear the alarm (a prime printing test or calibration plot will clear the alarm)

5) Refer to *Ink Delivery System* above (page 21) to help resolve.

Printer Grounding/Static Control

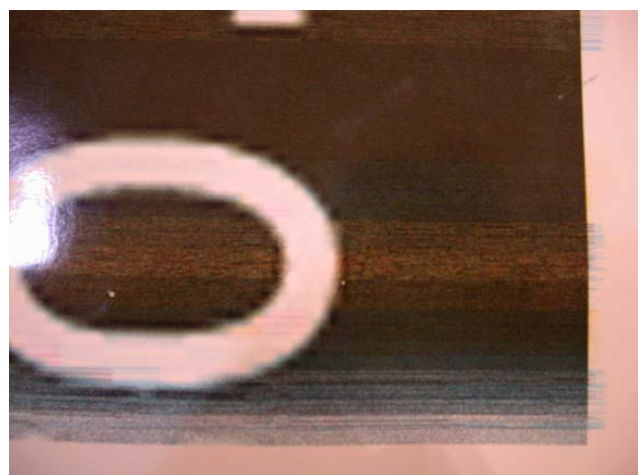
The Kodak 1200i consumes 1100 watts of power during typical operation and must be properly grounded in accordance with regional and general equipment/electrical grounding guidelines. Output quality problems including severe banding, ink overspray, abnormal printer calibrations, premature and intermittent cartridge jet failure, data shift, and personnel hazards may result if inadequate grounding is provided.

CAUTION: There is a serious safety issue when there is no earth ground connected to the printer. The printer will basically function but can cause a safety hazard if a person touches the printer chassis and another electrical device such as a computer. The voltage on the chassis can be raised to a level of approximately half the input AC voltage. The installer should always validate the power and grounding scheme at the installation facility. A second issue would be the lack of electrostatic discharge (ESD) protection. Without proper grounding the ESD brushes are rendered useless. A higher incidence of cartridge failures will occur if adequate grounding not properly supplied as well as possible malfunctions of printer's electronic circuitry. Review sections A – E:

A. Symptoms of ESD/Electrical Interference

1. Data Shift

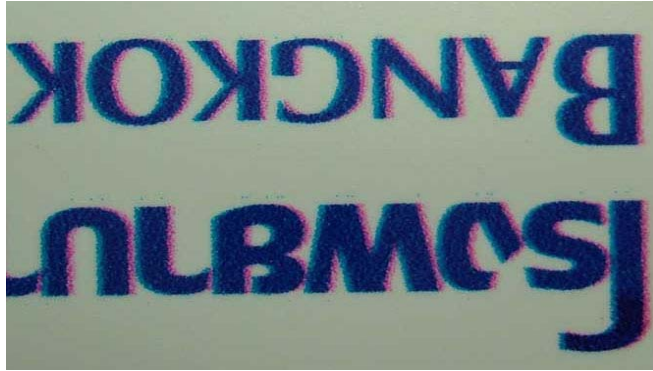
Data shift problems are observed in printed output (i.e. problem appears in the horizontal direction, projecting from either the left and/or right sides of printed image). The data shift may also appear through the center of the image as the second picture illustrates.



NOTE: Electrostatic discharge (ESD) is a special type of transient impulse. ESD refers to the abrupt release of charge that has accumulated on a person or object. This charge can result in voltages above 15,000 volts. A direct ESD spark can cause component failures or malfunction. Poor grounding and low humidity combined typically cause higher levels of media ESD discharge.

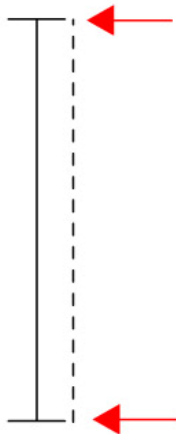
2. Ink Overspray

Ink Overspray and/or combination of data shift and ink overspray is observed. Normally occurs at severe ground fault locations (high levels of AC riding on ground/neutral lines or high levels of ESD are coming from the air plenum). Refer to B. below.



3. Media Static Cling/Feed Transport Problems

- Color calibration horizontal lines (i.e. Color Cal Vertical pattern) are incorrectly spaced (i.e. two lines are closer together while one line is spread farther from the other two) or may be printed outside of the calibration box area.



- Feed adjust values may be too low (i.e. 4840 to 4870). Typical feed adjust (paper calib values) should be 4800 +/- 15 for most media types. Media which generates a high amount of static electricity (i.e. 15,000~30,000 volts) and is thin (i.e. 3 mil) may be subject to improper transfer through the printer's media path.



NOTE: To isolate a suspected media type, load a different the media type (i.e. rapid dry or outdoor vinyl) and run the line length test and color calibration pattern again.

4. Intermittent Banding/Improper Print

- Static discharge build-up combined with poor building grounding can cause excessive ESD discharge, from the media as it unwinds, during long plots. This will depend on the media type and media transport rate through the printer.



NOTE: The addition of a humidifier in the room may help correct these types of problems.

5. Premature Cartridge Failure <700 ml

Massive cartridge jet failures may occur prior to the standard cartridge warranty (700 ml). Static interference and electrical discharges from media/printer to the cartridge jet plates can cause premature failure of internal cartridge electronics.



B. ESD Control Measures

1. Proper Power Cord & Grounding

- Only use the approved power cord, for the specific region, as supplied with the printer. The third prong (ground line) is required for proper printer operations, personnel safety and circuit protection. Only attach power cord to a 3-prong grounded electrical receptacle (refer to section C below).



2. Humidifiers

- The addition of a humidifier can solve print output problems where relative humidity (Rh) is too low (i.e. <30% Rh) and/or when mild grounding problems exist. The addition of a humidifier can reduce the effects of ESD on printed output. If the humidity in the printing area is increased and the above symptoms disappear then a grounding issue/ESD problem is likely present, but not severe. If the addition of a humidifier solves the problem permanently then no further action may be necessary unless premature cartridge failures occur.



NOTE: Even with adequate grounding measures intact, relative humidity should typically be between 45% and 55% in a normal room temperature environment for the best printing results (ESD suppression and color control). The suggested temperature range is 68-72 degree F. (20-22.2 degrees C.)



3. Ant-Static Mats

- The installation of Anti-Static mats below the printer have been known to help control ESD levels in the space on and around the printer.



3. Air Plenum Grounding

- In low humidity environments static build-up can occur across the air plenum and generate ESD levels which may interfere with printed output (mainly during dryer operations) if the air plenum is not completely grounded. Verify air plenum is thoroughly grounded by placing a voltmeter into a resistance scale and check electrical resistance between the Y-Arm assembly and the air plenum (connect to any screw). The normal resistance level should be 0.6 ohms or less but may vary depending on position of air plenum.



- If the electrical resistance between the Y-arm assembly and the air plenum is greater than 0.6 ohms then verify the ground strap between the right side of air plenum and the dryer mounting bracket (black) is connected. Perform resistance test across grounding strap while air plenum is in the UP and DOWN positions.

4. Rear Static Strip Condition & Grounding

- Check the condition of the upper rear static brush (shown at the right side in the photo below). If the carbon fibers are severely damaged then the static dissipative function is likely degraded. Replace the rear brush and ensure brush is grounded properly. The right bottom cover has been removed to illustrate the proper grounding path.

NOTE: For static protection to function properly the entire printer must be grounded properly as advised in this document.



C. Printer/Receptacle Power Tests

If the ESD Control Measures (above) have been installed and ESD symptoms continue to exist with printer operation it is suggested to check for proper printer/receptacle power and adequate grounding. Below are some suggested test methods for both the printer and the incoming power source.

CAUTION: Only properly trained service technicians should attempt to perform any of the steps below. It is strongly suggested to contact a certified electrician if a test method or measured value is not completely understood.

1. Testing AC level on printer chassis:

- Turn on Printer. With meter in an AC scale, connect both the black and red leads to the printer's rear metal plate screws at rear of printer. The normal chassis AC voltage reading, with proper electrical wiring/grounding in place, should be between 0.0 and 0.4 volts AC. Any level higher than 2 volts AC indicates a ground or neutral line problem is present (ground fault or floating ground). Typically anything below 4.5 volts AC will not cause a problem with printed output, but this largely depends on humidity level and ESD level of media.

Values higher than 8.0 volts

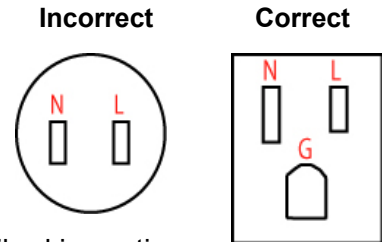


AC will start to cause some problems with image output (refer to section A); values greater than 12.0 volts lead to more severe problems including premature cartridge failures and severe banding.

2. Verify Proper Receptacle Configuration:

Verify the regional power (source) receptacle has a Ground (G) line for the respective region (N is neutral; L is line or hot).

CAUTION: If receptacle does not have a ground line (2-prong outlet only) then immediately stop service on the printer. The printer is extremely dangerous to work on (with power applied) and is a personnel hazard. The problem, for the symptoms described in section A, cannot be fully corrected until the electrical system/receptacle is properly fixed. Inform the customer a certified electrician will need to be contacted to upgrade the electrical system with a properly grounded outlet.



Also, do not work on printer if a 3-prong to 2-prong adapter, non-grounded standard receptacle, non-grounded GFCI receptacle, or a 'separate' ground line runs from the printer. Contact technical support management if necessary for intervention/assistance.

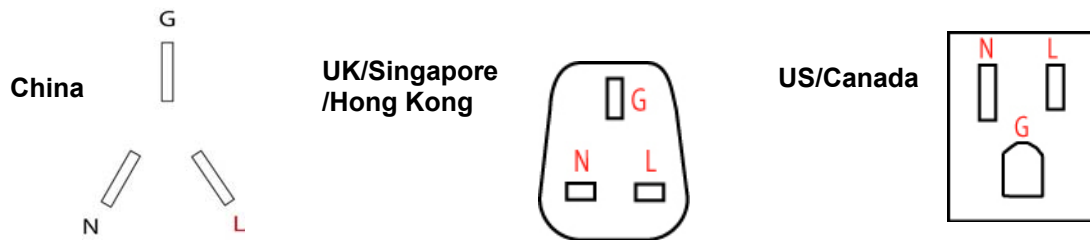
3. Testing Receptacle Neutral-to-Ground Voltage:

- In North America the easiest test method is to use a receptacle tester to determine proper outlet polarity and grounding. Simply plug the device into the outlet (standard and GFCI outlets), typically two LEDs (of the same color) should illuminate indicating proper electrical configuration.

- In all other countries a voltmeter may be used for test purposes. Verify the voltage level between Ground and Neutral is correct (normally <2.0 volts AC). A voltage 'screwdriver' may be used to easily test for the presence of voltage (phase) on ground and neutral lines (LED illuminates).



NOTE: neutral and line may be reversed.



CAUTION: if neutral-to-ground voltage, above 6 volts AC, is present then a serious problem is present within the building's electrical system. Often a mis-wired connection or imbalanced phase load can cause voltage/current to 'bleed' onto the ground line (commonly referred to as neutral-to-ground voltage) or a serious ground fault exists within the building. Immediately stop service on the printer. The printer is extremely dangerous to work on in this condition (with power applied) and is a personnel hazard. The problem, for the symptoms described in section A, cannot be fully diagnosed and/or corrected until the electrical system/receptacle is properly fixed. Inform the customer a certified electrician will need to be contacted to upgrade the electrical system with a properly grounded outlet or to correct a neutral-to-ground voltage problem.



D. Power/Voltage Testers

1. In North America, basic receptacle testers are available for testing standard 110 volt receptacle/wall outlets for proper polarity and ground detection. These models are probably the fastest way in detecting improper wiring or the presence of a ground fault.



The three LEDs help the electrician or technician identify:

- Correct wiring
- Hot/neutral reverse
- Hot/ground reverse
- Missing neutral
- Missing ground
- Missing hot.

2. In other continents a simple voltage 'screwdriver' may be used, such as the inexpensive Stanley 3MM Voltage Tester. These tools are used to determine the presence of phase on a hot line (L), neutral (N) or even ground (G).



3. The universal test instrument is the voltmeter or multimeter which may be used to measure dc, ac, resistance, etc.



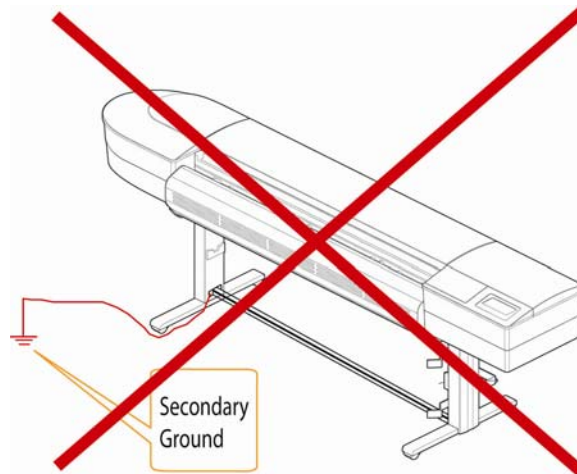
E. Common Mistakes by Technicians/Customers

1. The printer should only be grounded to the buildings electrical receptacle/outlet using the power cable provided and should conform to all electrical building grounding regulations in accordance with country/regional regulations. If a printer grounding problem is discovered only have a certified electrician ground the power source receptacle properly.

CAUTION: Do not implement any of the following actions listed below or personnel hazards and/or equipment damage may result:

a) Secondary Grounding

- If the receptacle or power strip is grounded (or thought to be grounded) do not attach a secondary ground to printer under any circumstances. This can be dangerous to the operator and/or equipment. Introduction of a 'ground loop' into the equipment can cause different problems/symptoms to suddenly appear and can be dangerous to the operator.



What is ground loop?

A ground loop occurs when there is more than one ground connection path between two pieces of equipment. The duplicate ground paths form the equivalent of a loop antenna which very efficiently picks up interference currents. Lead resistance transforms these currents into voltage fluctuations. As a consequence of ground-loop induced voltages, the ground reference in the system is no longer a stable potential, so signals ride on the noise. The noise becomes part of the program signal.

Ground loop is a common wiring condition where a ground current may take more than one path to return to the grounding electrode at the service panel. AC powered computers all connected to each other through the ground wire in common building wiring. Computers may also be connected by data communications cables. Computers are therefore frequently connected to each other through more than one path. When a multi-path connection between computer circuits exists, the resulting arrangement is known as a "ground loop". Whenever a ground loop exists, there is a potential for damage from intersystem ground noise. The ground loop theory also applies for printers connected to these same computers, but the primary difference is computers do not pull anywhere near the wattage demands of a Kodak 1200i printer.

While lower currents may cause a slight audible hum on signal lines (typically in video/audio electronics), higher currents can cause more serious problems such as sparking in connections (Ethernet port), damage to circuit assemblies signal wiring. Only perform printer installations using the recommended guidelines and ensure a proper printer ground is present.

b) 3-Prong to 2-Prong Adapters

- Do not attach a 3-prong adapter to a 2-prong or non-grounded electrical outlet just for the purpose of supplying power to the printer – call an electrician immediately and correct the power source problem. Bypassing the ground connection enables a free floating ground to exist at the printer which is not only dangerous to the operator but will likely result in imaging output problems.



- Some customers install line adapters which have a ground lead, then attach a wire between the ground lead and the receptacle box housing (i.e. screw) or other fixed point.

CAUTION: Installation of these types of adapters provides an extremely unreliable ground, is dangerous to the operator and equipment, and should never be considered a solution.

c) Non-Grounded Conditioners/Regulators

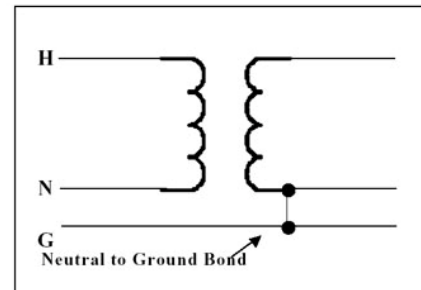
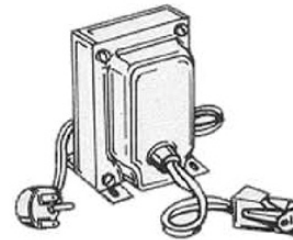
- Never connect a line conditioner or power regulator to an ungrounded power source – this can be dangerous to the equipment and operator. See b. above.



d) AC Isolation Transformers

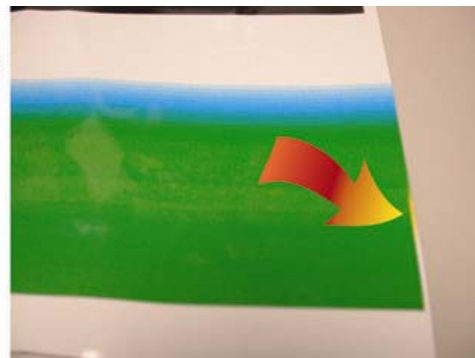
- AC isolation transformers are common devices in electronic repair shops. Technicians use them to isolate the power on their repair benches from physical grounds in the repair shop (pipes, radiators, etc.) This is primarily for safety reasons. The same isolation transformers can be used to electrically isolate the printer from the AC power provided and thus break any ground loops. AC isolation transformers are typically placed in series between the power cord and printer.

- This is a costly solution and the benefits may not be significant since the ground line will continue to float at the printer side. These devices are not suggested.



F. Related Print Symptoms

If data shift is observed at image edges combined with an image shift then this problem is typically a dirty encoder strip or dirty encoder sensor. Please refer to Technical Bulletin 5 for proper cleaning procedures.



DISCLAIMER:

This document has been provided as an aid to assist the installer/technician/authorized service provider, or electrician in solving a very specific issue regarding grounding related problems on the Kodak 1200i printer as detailed above. This document is not intended to assist with other electrical or equipment issues, nor does it supersede any regional electrical code regulations or ordinances. For grounding related problems on the Kodak 1200i, Encad Inc. encourages technicians or authorized service providers to suggest for the customer to consult a regionally certified electrician for advice/assistance, as needed, on a case by case basis. Encad Inc. is not responsible for any problems that arise or for any associated costs, in any way or manner, based on the information provided herein.